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00 52 13 DRAFT AGREEMENT

This Agreement is between the City of Clayton ("Owner") and _____ ("Contractor").
Owner and Contractor agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work for the as specified or indicated in the Contract Documents.
The Work is designated as follows:

Name of Project: _____

Owner's Project Identification No.: _____

ARTICLE 2 – CONSTRUCTION MANAGER

- 2.01 The Construction Manager for this Project is:

Name of Construction Manager: _____

Office address: _____

City, state, zip code: _____

ARTICLE 3 – CONTRACT TIMES

- 3.01 Contract Times

- A. The Work is required to be substantially complete on or before _____, and complete and ready for final payment in accordance with the General Conditions on or before _____.

- 3.02 Liquidated Damages

- A. Owner and Contractor recognize that the Contract Times specified for Critical Operations, and Substantial Completion and Final Completion are of the essence in the Contract. Owner and Contractor recognize that the Owner will suffer financial loss if the Work is not completed within the Contract Times specified in this Agreement as may be adjusted in accordance with the General Conditions. Owner and Contractor also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration preceding the actual loss suffered by Owner if the Work is not completed within the Contract Times. Accordingly, instead of requiring proof of the amount of these damages, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. Contractor agrees to pay Owner \$500 for each day that expires after the time specified in this Agreement for Substantial Completion until the Work is substantially complete.
 2. Contractor agrees to pay Owner \$500 for each day that expires after the time specified in this Agreement for Final Completion until the Work is completed and ready for final payment in accordance with the General Conditions.
- B. Liquidated damages for failing to timely attain Substantial Completion and Final Completion are not additive and will not be imposed concurrently.

- C. Contractor agrees to pay Owner liquidated damages as stipulated in Section 01 35 00 "Special Procedures" for failure to meet Contract Times for Milestones or Critical Operations.
- D. Resident Project Representative or Owner will determine whether the Work has been completed within the Contract Times. Assessment of liquidated damages by the Owner does not waive the Owner's right to assess or collect additional damages which Owner may sustain by the failure of the Contractor to perform in accordance with the terms of its Contract.

ARTICLE 4 – CONTRACT PRICE

- 4.01 Owner will pay the Contractor the following amount for completion of the Work in accordance with the Contract Documents:

| | | |
|--|---|--------------------|
| A | Lump Sum Base Bid Amount excluding Allowances | \$ |
| B | Allowance: Soil and Concrete Testing | \$ included in bid |
| C | Allowance : _____ | \$ |
| D | Lump Sum Contract Price (Sum of A through C) | \$ |
| Allowances will be adjusted per the General Conditions | | |

- 4.02 Owner will pay Contractor for completion of the Work in accordance with the Contract Documents at the prices shown in this Agreement. Contract Price has been computed in accordance with the General Conditions. Contractor acknowledges that for unit price items, estimated quantities are not guaranteed and are solely for the purpose of comparing Bids, and that final payment will be based on actual quantities determined in accordance with the Contract Documents.

ARTICLE 5 – PAYMENT PROCEDURES

- 5.01 Submit Applications for Payment in accordance with the General Conditions. Applications for Payment will be processed by the Construction Manager per Section 01 29 00 "Application for Payment Procedures."
- 5.02 The Owner will make progress payments on or about the 25th day of each month during performance of the Work. Payment is based on the total earned value of Work completed in the previous month in accordance with the Schedule of Values established as provided in the General Conditions.
- 5.03 Payment will be made for the total earned value of Work completed in the previous month after deducting:
- A. Retainage calculated per this Agreement;
 - B. Set-offs determined in accordance with the General Conditions; and
 - C. The total amount of payments previously made.
- 5.04 Retainage
- A. Progress payments will be made in an amount equal to 90 percent of the total earned value to date for completed Work and properly stored materials. The remaining 10 percent of the

total earned value to date will be held as retainage in accordance with O.C.G.A. §13-10-81, et seq.

- B. Owner may authorize that remaining payments be made in an amount equal to 100 percent of the total earned value for Work and properly stored materials completed when 50 percent of the Contract value including Change Orders and other additions to the Contract Price provided for by the Contract Documents is due and the manner of completion of the Work and its progress are reasonably satisfactory to the Owner. At the discretion of the Owner and with the approval of the Contractor, the retainage of each Subcontractor may be released separately as the Subcontractors completes their Work.
 - C. If, after discontinuing the retainage, the Owner determines that the Work is unsatisfactory or has fallen behind schedule, retainage may be resumed at the previous level. If retainage is resumed by the Owner, the Contractor and Subcontractors shall be entitled to resume withholding retainage accordingly.
 - D. Owner may reduce the amount of retainage held after Substantial Completion determines the Work to be reasonably satisfactory. The Owner will pay the retainage to the Contractor within 30 days after invoices and other appropriate documentation as may be required by the Contract Documents are provided. If at that time there are any remaining incomplete minor items, an amount equal to 200 percent of the value of each item as determined by the Owner shall be withheld until such item or items are completed. The reduced retainage shall be shared by the Contractor and Subcontractors as their interests may appear.
 - E. Retainage shall be invested at the current market rate and any interest earned on the retained amount by the Owner will be paid to the Contractor when the Project has been completed within the Contract Price and Contract Times as specified in the Contract Documents, or in any amendments or Change Orders approved in accord with the terms of the Contract, as certified by the Engineer in accordance with O.C.G.A. §13-10-81.
 - F. Release or reduction in retainage is contingent upon the consent of surety to the reduction in retainage. Submit a Consent of Surety Company to Reduction of or Partial Release of Retainage form as provided by or approved by the Construction Manager.
- 5.05 Owner will pay the remainder of the Contract Price as recommended by Construction Manager in accordance with the General Conditions upon Final Completion and acceptance of the Work.

ARTICLE 6 – PAYMENT OF INTEREST

- 6.01 All moneys not paid when due as provided in the General Conditions will earn interest at the rate specified in Title 13 of the O.C.G.A. Interest accrual will cease upon payment by the Owner.

ARTICLE 7 – CONTRACTOR'S REPRESENTATIONS

- 7.01 The Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

- C. Contractor is familiar with Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied the following Site related reports and drawings as identified in the Supplementary Conditions:
 - 1. Geotechnical Data Reports regarding subsurface conditions at or adjacent to the Site;
 - 2. Drawings of physical conditions relating to existing surface or subsurface structures at the Site;
 - 3. Underground Facilities referenced in reports and drawings;
 - 4. Reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site; and
 - 5. Technical Data related to each of these reports and drawings.
- E. Contractor has considered the:
 - 1. Information known to Contractor;
 - 2. Information commonly known to contractors doing business in the locality of the Site;
 - 3. Information and observations obtained from visits to the Site; and
 - 4. The Contract Documents.
- F. Contractor has considered the items identified in this Article with respect to the effect of such information, observations, and documents on:
 - 1. The cost, progress, and performance of the Work;
 - 2. The means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and
 - 3. Contractor's safety precautions and programs.
- G. Based on the information and observations referred to in the preceding paragraphs, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- H. Contractor is aware of the general nature of Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- I. Contractor has correlated the information known to the Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- J. Contractor has given the Construction Manager written notice of all conflicts, errors, ambiguities, or discrepancies that the Contractor has discovered in the Contract Documents, and the written resolution provided by the Construction Manager is acceptable to the Contractor.
- K. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

- L. Contractor's entry into this Agreement constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 8 – ACCOUNTING RECORDS

- 8.01 Accounting Record Availability: The Contractor is to establish and maintain, in accordance with generally accepted accounting practices, full and detailed accounting records of materials incorporated into the Project, and labor, tools, materials, and equipment used for the Work, consistent with the requirements of the General Conditions and as necessary for proper financial management under this Agreement. Subject to prior written notice, provide Owner reasonable access during normal business hours to Contractor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and the Contractor's fee. Preserve all such documents for a period of 3 years after the final payment by the Owner.

ARTICLE 9 – PROHIBITION ON CONTRACTS WITH COMPANIES BOYCOTTING ISRAEL

- 9.01 O.C.G.A. §50-5-85 applies to the award of state government contracts to companies that boycott Israel. Under this section, the state "shall not enter into a contract with an individual or company if the contract is related to construction or the provision of services, supplies, or information technology unless the contract includes a written certification that such individual or company is not currently engaged in, and agrees for the duration of the contract not to engage in, a boycott of Israel."
- 9.02 By signing this Agreement, Contractor certifies that it is not currently engaged in and agrees not to engage in a boycott of Israel for the duration of this Contract.

ARTICLE 10 – VENUE

- 10.01 Contractor agrees that venue lies exclusively in Rabun County, Georgia for any legal action.

ARTICLE 11 – CONTRACT DOCUMENTS

- 11.01 Contract Documents
 - A. Specifications Sections listed in Section 00 01 10 "Table of Contents" except as specifically excluded in Paragraph 12.02.
 - B. Drawings listed in the Sheet Index on the Drawings.
 - C. Addenda (Numbers 00 91 01 to 00 91 **[XX]**, inclusive).
 - D. Appendices listed in Section 00 01 10 "Table of Contents" except as specifically excluded in Paragraph 12.02.
 - E. The following Funding Agency forms are Contract Documents:
 - 1. None
 - F. The following are also Contract Documents which may be delivered or issued on or after the Effective Date of the Contract:
 - 1. Notice to Proceed.

2. Contract Amendment(s).
 3. Change Order(s).
 4. Field Order(s).
 5. Work Change Directive(s).
- G. There are no Contract Documents other than those listed above in this Paragraph. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

11.02 Bidding Requirements and Informational Documents:

- A. The following documents are provided for information only and are not part of the Contract Documents:
1. None.

The Effective Date of the Contract is .

Owner: City of Clayton
(typed or printed)

Contractor: _____
(typed or printed)

By: _____
(individual's signature)

By: _____
(individual's signature)

Name: Kurt Cannon
(typed or printed)

Name: _____
(typed or printed)

Title: Mayor
(typed or printed)

Title: _____
(typed or printed)
(Attach evidence of authority to sign)

Address for giving notice:

837 Highway 76 West
Clayton, GA 30525

Address for giving notice:

Designated representative:

Name: Jason Waldroup
Title: Public Works Director

Designated representative:

Name: _____
Title: _____

Address:

837 Highway 76 West
Clayton, GA 30525

Address:

Phone: (828) 557-9269

Phone: _____

Email: jwaldroup@cityofclaytonga.gov

Email: _____

END OF SECTION

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00 61 13 PERFORMANCE BOND

| | |
|---|---|
| <p>Contractor as Principal</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> | <p>Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> |
| <p>Owner</p> <p>Name: City of Clayton</p> <p>Mailing address (principal place of business):</p> <p>837 Highway 76 West Clayton, GA 30525</p> | <p>Physical address (principal place of business):</p> <p>Telephone (Main):</p> <p>Telephone (Claims):</p> |
| <p>Contract</p> <p>Contract No.:</p> <p>Project name and number:</p> <p>Contract Price: \$</p> <p>Effective Date of Contract:</p> | <p>Surety's state of incorporation:</p> <p><i>By submitting this bond, Surety affirms that it is licensed to provide and execute this bond and authorized to do business in the Georgia.</i></p> |
| <p>Bond</p> <p>Bond Amount:</p> <p>Date of Bond:</p> <p>(Date of Bond cannot be earlier than Effective Date of Contract)</p> | <p>Local Agent for Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> <p>Telephone (Main):</p> |

Surety and Contractor, intending to be legally bound and obligated to Owner, do each cause this performance bond to be duly executed on its behalf by its authorized officer, agent, or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Contractor as Principal faithfully performs the Work required by the Contract then this obligation will be null and void; otherwise the obligation is to remain in full force and effect. Provisions of this bond shall be pursuant to the applicable terms and provisions of Titles 13 and 32 of the O.C.G.A. as amended and all liabilities on this bond shall be determined in accordance with the terms and provisions of said statutes to the same extent as if it were copied at length herein. Venue lies exclusively in [specify name] County, Georgia for any legal action.

| | |
|--|--|
| <p>Contractor as Principal</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Email: _____</p> | <p>Surety</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Email: _____</p> <p><i>(Attach Power of Attorney and place surety seal below)</i></p> |
|--|--|

END OF SECTION

00 61 16 PAYMENT BOND

| | |
|---|---|
| <p>Contractor as Principal</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> | <p>Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> |
| <p>Owner</p> <p>Name: City of Clayton</p> <p>Mailing address (principal place of business):</p> <p>837 Highway 76 West Clayton, GA 30525</p> | <p>Physical address (principal place of business):</p> <p>Telephone (Main):</p> <p>Telephone (Claims):</p> |
| <p>Contract</p> <p>Contract No.:</p> <p>Project name and number:</p> <p>Contract Price: \$</p> <p>Effective Date of Contract:</p> | <p>Surety's state of incorporation:</p> <p><i>By submitting this bond, Surety affirms that it is licensed to provide and execute this bond and authorized to do business in the Georgia.</i></p> <p>Local Agent for Surety</p> <p>Name:</p> <p>Mailing address (principal place of business):</p> |
| <p>Bond</p> <p>Bond Amount:</p> <p>Date of Bond:</p> <p>(Date of Bond cannot be earlier than Effective Date of Contract)</p> | <p>Telephone (Main):</p> |

Surety and Contractor intending to be legally bound and obligated to Owner do each cause this payment bond to be duly executed on its behalf by its authorized officer, agent, or representative. The Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally to this bond. The condition of this obligation is such that if the Contractor as Principal pays all claimants providing labor or materials to Contractor or to a Subcontractor in the prosecution of the Work required by the Contract then this obligation will be null and void; otherwise the obligation is to remain in full force and effect. Provisions of this bond shall be pursuant to the applicable terms and provisions of Titles 13 and 32 of the O.C.G.A. as amended and all liabilities on this bond shall be determined in accordance with the terms and provisions of said statutes to the same extent as if it were copied at length herein. Venue lies exclusively in [specify name] County, Georgia for any legal action.

Contractor as Principal

Signature: _____

Name: _____

Title: _____

Email: _____

Surety

Signature: _____

Name: _____

Title: _____

Email: _____

(Attach Power of Attorney and place surety seal below)

END OF SECTION

00 72 00 GENERAL CONDITIONS

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 Defined Terms

- A. A term with initial capital letters, including the term's singular and plural forms, has the meaning indicated in this Paragraph wherever used in the Bidding Requirements or Proposal Requirements or Contract Documents. In addition to the terms specifically defined, terms with initial capital letters in the Contract Documents may include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Documents issued prior to the receipt of Bids or Proposals which clarify or modify the Bidding Requirements/Proposal Requirements or the proposed Contract Documents.
 2. *Agreement*—The document signed by Owner and Contractor that establishes the Contract Price and Contract Times, and designates the specific documents that are Contract Documents.
 3. *Application for Payment*—The documents used by Contractor to request payments from Owner and the supporting documentation required by the Contract Documents.
 4. *Bid; Proposal*—An offer submitted to Owner for the Project setting forth the Contract Price and Contract Times for the Work to be performed.
 5. *Bidding Documents; Proposal Documents*—The Bidding Requirements or Proposal Requirements, the proposed Contract Documents, and Addenda.
 6. *Bidding Requirements; Proposal Requirements*—The Invitation to Bid or Request for Proposals, Instructions to Offerors, Bid Security or Proposal Security, Bid Form or Proposal Form and attachments, and required certifications and affidavits.
 7. *Bid Security; Proposal Security*—The financial security provided by Offeror at the time the Bid or Proposal is submitted and held by Owner until the Agreement is executed and the evidence of insurance and bonds required by the Contract Documents are provided.
 8. *Change Order*—A document issued on or after the Effective Date of the Contract and signed by Owner and Contractor which modifies the Work, Contract Price, Contract Times, or terms and conditions of the Contract.
 9. *Change Proposal*—A document submitted by Contractor in accordance with the requirements of the Contract Documents:
 - a. Requesting an adjustment in Contract Price or Contract Times;
 - b. Contesting an initial decision concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents;
 - c. Challenging a Set-off against payment due; or
 - d. Seeking other relief with respect to the terms and conditions of the Contract.
 10. *Claim*—A demand or assertion by Owner or Contractor submitted in accordance with the requirements of the Contract Documents. A demand for money or services by an entity other than Owner or Contractor is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning any hazardous, toxic, or dangerous waste, substance, or material.
12. *Construction Manager*—The individual or entity named as Construction Manager in the Agreement and the consultants, subconsultants, individuals, or entities directly or indirectly employed or retained by them to provide construction management as advisor services to Owner.
13. *Construction Manager at Risk (CMAR)*—The individual or entity selected by Owner to construct the Project using the Construction Manager at Risk project delivery method. The term Contractor means Construction Manager at Risk in the Contract Documents when the Construction Manager at Risk project delivery method is used.
14. *Contract*—The entire integrated set of documents concerning the Work and describing the relationship between the Owner and Contractor.
15. *Contract Amendment*—A document issued on or after the Effective Date of the Contract and signed by Owner and Contractor which:
 - a. Authorizes new phases of the Work and establishes the Contract Price, Contract Times, or terms and conditions of the Contract for the new phase of Work; or
 - b. Modifies the terms and conditions of the Contract, but does not make changes in the Work.
16. *Contract Documents*—Those items designated as Contract Documents in the Agreement.
17. *Contract Price*—The monetary amount stated in the Agreement and as adjusted by Modifications, and increases or decreases in unit price quantities, if any, that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
18. *Contract Times*—The number of days or the dates by which Contractor must achieve specified Milestones, achieve Substantial Completion, and complete the Work.
19. *Contractor*—The individual or entity with which Owner has contracted to perform the Work.
20. *Contractor's Team*—Contractor, Subcontractors, Suppliers, and individuals or entities directly or indirectly employed or retained by Contractor, Subcontractors, or Suppliers to perform part of the Work, or anyone for whose acts they may be liable.
21. *Cost of the Work*—The sum of costs incurred for the performance of the Work as allowed by Article 13.
22. *Day*—A day of 24 hours measured from midnight to the next midnight.
23. *Defective*—When applied to Work, refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. Does not conform to the Contract Documents;

- b. Does not meet the requirements of applicable inspections, reference standards, tests, or approvals referred to in the Contract Documents; or
 - c. Has been damaged prior to Construction Manager's recommendation of final payment unless responsibility for the protection of the Work has been assumed by Owner at Substantial Completion in accordance with Paragraphs 15.03 or 15.04.
24. *Design Professional*—The individuals or entity named as the Architect or Engineer in the Agreement and the subconsultants, individuals, or entities directly or indirectly employed or retained by Design Professional to provide design or other technical services to Owner. Design Professional has responsibility for design and technical issues related to the Contract Documents.
25. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work. Shop Drawings and other documents generated by Contractor's Team are not Drawings.
26. *Effective Date of the Contract*—The date indicated in the Agreement on which the Contract becomes effective.
27. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including Shop Drawings and other Submittals, that are in an electronic or digital format.
28. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
29. *Field Order*—A document issued by Construction Manager or Design Professional requiring changes in the Work that do not change the Contract Price or the Contract Times.
30. *Final Completion*—The point where the Work is complete in accordance with the Contract Documents, items and documents required by the Contract Documents have been accepted by Owner and the Project is ready for Final Payment.
31. *Guaranteed Maximum Price (GMP)*—The maximum amount to be paid by Owner for the sum of the Cost of the Work plus Contractor's fee as set forth in the Agreement, subject to increases or decreases for changes in the Work, when the Construction Manager at Risk project delivery method is used.
32. *Hazardous Environmental Condition*—The presence of Constituents of Concern at the Site in quantities or circumstances that may present a danger to persons or property exposed to Constituents of Concern. The presence of Constituents of Concern at the Site necessary for the execution of the Work or to be incorporated into the Work is not a Hazardous Environmental Condition provided these Constituents of Concern are

controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract.

- a. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
33. *Indemnified Costs*—All costs, losses, judgments, and damages resulting from claims or demands against Owner’s Indemnitees. These costs include fees for design professionals, attorneys, and other professionals and any legal, court, arbitration, or other dispute resolution costs.
 34. *Laws and Regulations; Laws or Regulations*—Applicable laws, statutes, rules, regulations, ordinances, codes, permits, and binding decrees, resolutions, and orders of governmental bodies, agencies, authorities, and courts having jurisdiction over the Project.
 35. *Liens*—Charges, security interests, or encumbrances upon Contract related funds, real property, or private property.
 36. *Manufacturer*—The individual or entity that designs, casts, fabricates, manufactures, assembles, tests, and provides materials or equipment to be incorporated in the Work.
 37. *Milestone*—A principal event in the performance of the Work that Contractor is required by Contract to complete by a specified date or within a specified time.
 38. *Modification*—Change made to the Contract Documents by Contract Amendment, Change Order, Field Order, or Work Change Directive.
 39. *Notice of Award*—The notice of Owner’s acceptance of the Successful Offeror’s Bid or Proposal.
 40. *Notice to Proceed*—A notice to Contractor of the Contract Times and the date Work is to begin.
 41. *Offeror*—An individual or entity that submits a Bid or Proposal to Owner.
 42. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
 43. *Owner’s Budget*—The amount budgeted by Owner for the construction of the Project.
 44. *Owner’s Indemnitees*—Each member of OPT and their officers, directors, members, partners, employees, agents, consultants, and subcontractors.
 45. *Owner’s Project Team (OPT)*—The Owner, Design Professional, Construction Manager, and the other entities identified in the Supplementary Conditions and the consultants, subconsultants, individuals or entities directly or indirectly employed or retained by them to provide services to Owner.

46. *Progress Schedule*—A schedule prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor’s plan to accomplish the Work within the Contract Times.
47. *Project*—The total undertaking to be accomplished for Owner under the Contract Documents.
48. *Project Construction Manager (PCM)*—The authorized representative of OPT assigned to assist Construction Manager at the Site. The term Project Construction Manager includes assistants and field staff of Construction Manager.
49. *Project Management Information System (PMIS)*—The online project management system that will be used by OPT and Contractor to submit and share documentation and other related communications and information for this Project.
50. *Samples*—Physical examples of materials, equipment, or workmanship representing some portion of the Work that are used to establish the standards for that portion of the Work.
51. *Schedule of Anticipated Payments*—A detailed tabulation, prepared and maintained by Contractor, showing the anticipated amount of each Application for Payment and the month in which they will be submitted.
52. *Schedule of Submittals*—A detailed tabulation, prepared and maintained by Contractor, of each required submittal and the time requirements for review and approval of each submittal.
53. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for Contractor’s Applications for Payment.
54. *Set-off*—A reduction in payment due to Contractor under Article 15.
55. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by Contractor’s Team and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
56. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed. The Site includes rights-of-way, easements, and other lands or areas furnished by Owner which are designated for use by Contractor.
57. *Specifications*—The part of the Contract that describes the requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
58. *Subcontractor*—An individual or entity having a direct contract with Contractor or with other Subcontractors or Suppliers for the performance of a part of the Work.
59. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Construction Manager, or that is indicated as a Submittal in the Schedule of Submittals accepted by Construction Manager. Submittals, whether approved or accepted by OPT, are not Contract Documents.

60. *Substantial Completion*—The point where the Work or a specified part of the Work is sufficiently complete to be used for its intended purpose in accordance with the Contract Documents.
61. *Successful Offeror*—The Offeror to which Owner awards the Contract.
62. *Supplementary Conditions*—The part of the Contract that amends or supplements the General Conditions.
63. *Supplier*—A Manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with Subcontractors or other Suppliers to furnish materials or equipment to be incorporated in the Work.
64. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions with respect to either:
 - a. Existing subsurface conditions at or adjacent to the Site;
 - b. Existing physical conditions at or adjacent to the Site including existing surface or subsurface structures at the Site, except Underground Facilities; or
 - c. Hazardous Environmental Conditions at the Site.
65. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
66. *Unit Price Work*—Work to be paid for based on unit prices.
67. *Work*—The construction of the Project or its component parts as required by the Contract Documents. Work includes and is the result of performing and providing all labor, services, and documentation to construct the Project; providing all materials and equipment to be incorporated into the Project, and providing related services for testing, startup and commissioning, all as required by the Contract Documents.
68. *Work Change Directive*—A directive issued to Contractor on or after the Effective Date of the Contract ordering an addition, deletion, or revision in the Work. The Work Change Directive serves as a memorandum of understanding regarding the directive until a Change Order can be issued.

1.02 Terminology

- A. The words and terms discussed in this Paragraph 1.02 are not defined terms that require initial capital letters, but when used in the Bidding Requirements or Proposal Requirements or Contract Documents, have the indicated meaning.
- B. Contract Documents are written using imperative language:
 1. Simple imperative sentence structure is used which places a verb as the first word in the sentence. It is understood that the words “furnish,” “install,” “perform,” “provide,”

or similar words include the meaning of the phrase "Contractor shall..." before these words.

2. Unless specifically stated that action is to be taken by OPT or others, it is understood that the action described is a requirement of Contractor.
- C. The use of the words "furnish," "install," "perform," and "provide" have the following meanings when used relating to services, materials, or equipment:
1. Furnish means to supply and deliver the specified services, materials, or equipment to the Site or other specified location ready for use or installation.
 2. Install means to complete construction or assembly of the specified services, materials, or equipment so they are ready for their intended use.
 3. Perform or provide means to furnish and install specified services, materials, or equipment, complete and ready for their intended use.
 4. Perform or provide the specified services, materials, or equipment complete and ready for intended use if the Contract Documents require specific services, materials, or equipment, but do not expressly use the words "furnish," "install," "perform," or "provide."
- D. The meaning and intent of certain terms or adjectives are described as follows:
1. The terms "as allowed," "as approved," "as ordered," "as directed," or similar terms in the Contract Documents indicate an exercise of professional judgment by OPT.
 2. Adjectives like "reasonable," "suitable," "acceptable," "proper," "satisfactory," or similar adjectives are used to describe a determination of OPT regarding the Work.
 3. Any exercise of professional judgment by OPT will be made solely to evaluate the Work for general compliance with the Contract Documents unless there is a specific statement in the Contract Documents indicating otherwise.
 4. The use of these or similar terms or adjectives does not assign a duty or give OPT authority to supervise or direct the performance of the Work, or assign a duty or give authority to OPT to undertake responsibilities contrary to the provisions of Article 9, Article 10 or other provisions of the Contract Documents.
- E. Requirements apply to all Work of the same kind, class, and type even though the word "all" or "any" is not stated.
- F. The terms "includes" and "including" are used as terms of enlargement and not of limitation or exclusive enumeration, and use of these terms does not create a presumption that components not expressed are excluded. The terms "consist of" or "consisting of" limits the interpretation to only those items specifically listed.
- G. It is understood that the cost of providing Work is included in the Contract Price and no additional compensation is to be paid by Owner unless specifically stated otherwise in the Contract Documents. Expressions like "at no additional cost to Owner," "at Contractor's expense," or similar words mean that Contractor is to include the cost of this Work in their Contract Price and perform or provide specified Work without an increase in the Contract Price.

- H. Words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with this recognized meaning unless stated otherwise in the Contract Documents.
- I. Written documents are required where reference is made to notices, reports, approvals, consents, statements, instructions, opinions, or other types of documentation or communications required by the Contract Documents. Approval and consent documents must be received by Contractor prior to the action or decision for which approval or consent is given. These may be made in printed or electronic format through OPT's Project Management Information System or other electronic media as required by the Contract Documents or approved by Construction Manager.
- J. Giving notice as required by the Contract Documents may be by printed or electronic media using a method that requires acknowledgment of the receipt of that notice.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 Delivery of Bonds and Evidence of Insurance

- A. Provide required bonds and evidence of insurance required by the Contract Documents to Construction Manager with the executed Agreement.
- B. Evidence of insurance must include copies of the insurance policies, including all endorsements, and identification of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 Copies of Documents

- A. OPT will furnish one copy of the executed Contract Documents in electronic portable document format (PDF). This document is the Project Record Copy of the Contract Documents.

2.03 Before Starting Construction

- A. Provide the following preliminary documents in accordance with the Contract Documents within 10 days after the Effective Date of the Contract:
 - 1. Progress Schedule;
 - 2. Schedule of Submittals;
 - 3. Schedule of Values; and
 - 4. Schedule of Anticipated Payments.
- B. Designate the specific individuals authorized to act as representatives of Contractor. These individuals must have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of Contractor.
- C. Owner will designate the specific individuals authorized to act as representatives of Owner and the limits of their authority regarding acting on behalf of Owner.

2.04 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract Documents, the OPT and Contractor will send and accept Electronic Documents sent by Electronic Means using the protocols specified in Section 01 33 00 "Document Management."

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. Requirements of each part of the Contract Documents are as binding as if required by all Contract Documents. It is the intent of the Contract Documents to describe a functionally complete project. The Contract Documents do not indicate or describe all the Work required to complete the Project. Additional details required for construction of the Project are to be provided by Contractor and coordinated with OPT.
- B. Provide the labor, documentation, services, materials, or equipment that may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result, whether specifically called for in the Contract Documents or not. Include these related costs in the offered Contract Price.
- C. Provide equipment that is functionally complete as described in the Contract Documents. The Drawings and Specifications do not indicate or describe all the Work required to complete the installation of equipment purchased by the Owner or Contractor. Additional details required for the correct installation of selected equipment are to be provided by Contractor and coordinated with Design Professional through Construction Manager.
- D. Comply with the most stringent requirements where compliance with two or more standards is specified and they establish different or conflicting requirements for the Work, unless the Contract Documents indicate otherwise.
- E. Provide materials and equipment comparable in quality to similar materials and equipment incorporated in the Project or as required to meet the minimum requirements of the application if the materials and equipment are shown in the Drawings but are not included in the Specifications.
- F. The Project Record Copy of the Contract Documents governs if there is a discrepancy between the Project Record Copy of the Contract Documents and subsequent electronic or digital versions of the Contract Documents, including printed copies derived from these electronic or digital versions.
- G. The Contract supersedes all prior written or oral negotiations, representations, and agreements. The Contract Documents comprise the entire Agreement between Owner and Contractor. The Contract Documents may be modified only by a Modification.
- H. Request clarification from Construction Manager for a decision before proceeding if Contractor is not clear on the meaning of the Contract Documents. Construction Manager is to issue clarifications and interpretations of the Contract Documents in accordance with the Contract Documents.

I. Organization of the Documents:

1. Organization of the Contract Documents is not intended to control or lessen the responsibility of Contractor when dividing Work among Subcontractors or Suppliers, or to establish the extent of Work to be performed by trades, Subcontractors, or Suppliers, except on multi-prime contracts. Specifications or details do not need to be indicated or specified in each Specification or Drawing. Items shown in the Contract Documents are applicable regardless of their location in the Contract Documents.
2. Standard Paragraph titles and other identifications of subject matter in the Specifications are intended to aid in locating and recognizing various requirements of the Specifications. Titles do not define, limit, or otherwise restrict Specification text.
3. The Contract requirements described in the General Conditions, Supplementary Conditions, and General Requirements (Division 01 Sections of the Specifications) apply to Work regardless of where it is described in the Contract Documents, unless specifically noted otherwise.
4. Specifications or details do not need to be indicated or specified in each Specification or Drawing. Items shown in the Contract Documents are applicable regardless of their location in the Contract Documents.

J. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

K. Nothing in the Contract Documents creates:

1. a contractual relationship between OPT and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
2. an obligation on the part of OPT to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 Reference Standards

A. Standard Specifications, Codes, Laws and Regulations:

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of technical societies, organizations, or associations, or to Laws or Regulations, whether specific or implied, are those in effect at the time Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price unless specifically stated otherwise in the Contract Documents.
2. No provision of referenced standard specifications, manuals, reference standards, codes, or instructions of a Supplier changes the duties or responsibilities of OPT or Contractor from those described in the Contract Documents or assigns a duty to or gives authority to OPT to supervise or direct the performance of the Work or undertake responsibilities inconsistent with the Contract Documents.

3. The provisions of the Contract Documents take precedence over standard specifications, manuals, reference standards, codes, or instructions of a Supplier unless specifically stated otherwise in the Contract Documents.
- B. Comply with applicable construction industry standards, whether referenced or not.
 1. Standards referenced in the Contract Documents govern over standards not referenced but recognized as applicable in the construction industry.
 2. Comply with the requirements of the Contract Documents if they produce a higher quality of Work than the applicable construction industry standards.
 3. Submit questions regarding which code or standard is applicable to Construction Manager. Design Professional will determine whether a code or standard is applicable, which of several codes or standards are applicable, or if the Contract Documents produce a higher quality of Work. Construction Manager will respond to the question as appropriate.
- C. Make copies of reference standards available if requested by Construction Manager.

3.03 Reporting and Resolving Discrepancies

- A. Reporting Discrepancies:
 1. Carefully study the Drawings and verify pertinent figures and dimensions with respect to actual field measurements before undertaking the Work. Immediately report conflicts, errors, ambiguities, or discrepancies that Contractor discovers or has actual knowledge of to Construction Manager.
 2. Immediately notify the Construction Manager of conflicts, errors, ambiguities, or discrepancies in the Contract Documents or discrepancies between the Contract Documents and:
 - a. Applicable Laws or Regulations;
 - b. Actual field conditions;
 - c. Standard specifications, manuals, reference standards, or codes; or
 - d. Instructions of Suppliers.
 3. Do not proceed with affected Work until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation from Construction Manager or by a Modification to the Contract Documents issued pursuant to Paragraph 11.01, except in an emergency as required by Paragraph 7.12.
 4. Contractor is liable to OPT for failure to report conflicts, errors, ambiguities, or discrepancies in the Contract Documents of which Contractor has actual knowledge.
 5. Contractor is deemed to have included the most expensive item, system, procedure, etc. in the Contract Price if a conflict, error, ambiguity, or discrepancy in the Contract Documents was known, but not reported prior to submitting the Bid or Proposal or when Contractor negotiates the Contract Price.

3.04 Interpretation of the Contract Documents

- A. Submit questions concerning the non-technical or contractual/administrative requirements of the Contract Documents to Construction Manager immediately after the question arises. Construction Manager will provide an interpretation of the Contract Documents regarding these questions and will coordinate the response of OPT to Contractor.
- B. Submit questions regarding the design of the Project described in the Contract Documents to Construction Manager immediately after the question arises. Construction Manager will request an interpretation of the Contract Documents from Design Professional. Construction Manager will coordinate the response of OPT to Contractor.
- C. OPT may initiate a Modification to the Contract Documents through Construction Manager if a response to the question indicates that a change in the Contract Documents is required. Contractor may appeal Design Professional's or Construction Manager's interpretation by submitting a Change Proposal.

3.05 Reuse of Documents

- A. Contractor's Team has no rights to the Contract Documents and may not use the Contract Documents or copies or electronic media editions of the Contract Documents other than for the construction of this Project. This provision survives final payment or termination of the Contract.
- B. Contractor can retain a copy of the Contract Documents for record purposes, unless specifically prohibited by Owner for security reasons. Surrender paper and digital copies of the Contract Documents and other related documents and remove these documents from computer equipment or storage devices as a condition of final payment if Owner so directs.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 Commencement of Contract Times; Notice to Proceed

- A. The Contract Times commence to run on the date indicated in the Notice to Proceed. If a Notice to Proceed is not issued, the Contract Times will commence to run 15 days after the Contract is signed by all parties.
- B. Begin performing the Work on the date indicated in the Notice to Proceed. Do not begin Work before the date indicated in the Notice to Proceed or prior to providing evidence that insurance required in Article 6 is in effect.

4.02 Progress Schedule

- A. Construct the Work in accordance with the Progress Schedule established in accordance with the Contract Documents.
 - 1. Adjust the Progress Schedule as required to accurately reflect actual progress on the Work.
 - 2. Submit proposed adjustments in the Progress Schedule that change the Contract Times in accordance with the requirements of Article 11.

- B. Continue performing Work and adhere to the Progress Schedule during disputes or disagreements with Owner. Do not delay or postpone Work pending resolution of disputes or disagreements, or during an appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree.

4.03 Delays in Contractor's Progress

- A. Contractor is not entitled to an adjustment in Contract Price or Contract Times for delays, disruptions, or interference caused by or within the control of Contractor's Team.
- B. Contractor is entitled to an equitable adjustment in Contract Price or Contract Times if OPT directly delays, disrupts, or interferes with the performance or progress of the Work. Contractor is not entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Owner if this delay is concurrent with a delay, disruption, or interference attributable to or within the control of Contractor's Team.
- C. Contractor is entitled to an equitable adjustment in the Contract Times, but not Contract Price, if Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of OPT or Contractor. These adjustments in Contract Times are Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. These unanticipated causes include:
 - 1. Severe and unavoidable natural catastrophes e.g. fires, floods, epidemics, and earthquakes;
 - 2. Acts of war or terrorism;
 - 3. Acts or failures to act of utility owners or other third-party entities other than those third-party utility owners performing other work at or adjacent to the Site as arranged by Owner and, as contemplated in Article 8;
 - 4. The existence of a differing subsurface or physical condition;
 - 5. An Underground Facility not shown or not indicated with reasonable accuracy by the Contract Documents;
 - 6. Hazardous Environmental Conditions; and
 - 7. Delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site unless this other work also for Owner.
- D. Contractor is entitled to an equitable adjustment in the Contract Times, but not Contract Price, if Contractor's performance or progress is delayed or disrupted by weather conditions provided such weather conditions exceed those that could normally be expected for the Site in that month of the year, unless other provisions for Weather related delays are included in the Contract Documents. Contractor is to include time associated with normal weather-related delays in the Project Schedule and assumes the risks, including costs, associated with delays related to normal weather conditions.
- E. Contractor is only entitled to an adjustment of the Contract Times for specific delays, disruptions, and interference to the performance or progress of the Work that can be

demonstrated to directly impact the ability of Contractor to complete the Work within the Contract Times. No adjustments in Contract Times are allowed for delays on components of the Work which were or could have been completed without impacting the Contract Times.

- F. Notify Construction Manager immediately of a potential delaying, disrupting, or interfering event. Submit a Change Proposal seeking an adjustment in Contract Price or Contract Times within 30 days of the commencement of the delaying, disrupting, or interfering event. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11. Change Proposal seeking an increase in Contract Times or Contract Price submitted must include supporting data that details the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference;
 5. A revised Progress Schedule indicating all the activities affected by the delay, disruption, or interference;
 6. An explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work;
 7. The impact on Contract Price, in accord with the provisions of Paragraph 11.07; and
 8. Such additional supporting documentation as OPT may require.

ARTICLE 5 – SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner will furnish the Site and inform Contractor of encumbrances or restrictions known to Owner related to use of the Site with which Contractor must comply in performing the Work.
- B. Provide for additional lands and access Contractor requires for temporary construction facilities or storage of materials and equipment, other than those identified in the Contract Documents. Provide documentation of authority to use these additional lands to Construction Manager before using them.

5.02 Use of Site and Other Areas

- A. Confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Owner or Contractor has arranged to use through construction easements or agreements, and other adjacent areas as permitted by Laws and Regulations. Assume full responsibility for damage or injuries which result from the performance of the Work or from other actions or conduct of Contractor's Team, including:
 - 1. Damage to the Site;
 - 2. Damage to adjacent areas used for Contractor's Team's operations;
 - 3. Damage to other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and
 - 4. Injuries and losses sustained by the owners or occupants of these lands or areas.
- B. Take the following action if a damage or injury claim is made by the owner or occupant of adjacent land or area because of the performance of the Work, or because of other actions or conduct of Contractor's Team:
 - 1. Take immediate corrective or remedial action as required by Paragraph 7.09; and
 - 2. Attempt to settle the claim through negotiations with the owner or occupant, or otherwise resolve the claim by mediation or other dispute resolution proceeding or at law; and
 - 3. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ANY SUCH CLAIM AND ALL INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO ANY CLAIM OR ACTION BROUGHT BY ANY SUCH OWNER OR OCCUPANT AGAINST OWNER'S INDEMNITEES TO THE EXTENT CAUSED DIRECTLY OR INDIRECTLY, IN WHOLE OR IN PART BY, OR BASED UPON, CONTRACTOR'S PERFORMANCE OF THE WORK, OR BECAUSE OF OTHER ACTIONS OR CONDUCT OF CONTRACTOR'S TEAM.**

5.03 Subsurface and Physical Conditions

- A. The Supplementary Conditions identify:
 - 1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data; and
 - 2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site, except Underground Facilities, that contain Technical Data.
 - 3. Technical Data contained in these reports and drawings.
- B. If no Technical Data have been identified in the Supplementary Conditions, then Technical Data is defined, with respect to conditions at the Site, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, or environmental, or

other Site or facilities conditions report prepared for the Project and made available to Contractor.

- C. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
- D. Contractor may rely upon the accuracy of the Technical Data contained in these reports and drawings, but these reports and drawings are not Contract Documents. Except for this reliance on Technical Data, Contractor may not rely upon or make claims against Owner's Indemnitees with respect to:
 - 1. The completeness of reports and drawings for Contractor's purposes, including aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, or Contractor's safety precautions and programs; or
 - 2. Other data, interpretations, opinions, and information contained in these reports or shown or indicated in the drawings; or
 - 3. The contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 - 4. Contractor's interpretation of or conclusions drawn from Technical Data or other data, interpretations, opinions, or information.

5.04 Differing Subsurface or Physical Conditions

- A. Notify Construction Manager immediately, but in no event later than 3 days, after becoming aware of a subsurface or physical condition that is uncovered or revealed at the Site, and before further disturbing the subsurface or physical conditions or performing any related Work that:
 - 1. Establishes that the Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 - 2. Requires a change in the Drawings or Specifications;
 - 3. Differs materially from that shown or indicated in the Contract Documents; or
 - 4. Is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.
- B. Do not further disturb or perform Work related to this subsurface or physical condition, except in an emergency as required by Paragraph 7.12, until permission do so is issued by Construction Manager.
- C. Construction Manager is to notify OPT after receiving notice of a differing subsurface or physical condition from Contractor. OPT will:
 - 1. Promptly review the subsurface or physical condition;
 - 2. Determine the necessity of OPT's obtaining additional exploration or tests with respect the subsurface or physical condition;

3. Determine if the subsurface or physical condition falls within one or more of the differing site condition categories in Paragraph 5.04.A;
 4. Prepare recommendations regarding Contractor's resumption of Work relating to the subsurface or physical condition in question;
 5. Determine the need for changes in the Drawings or Specifications; and
 6. Advise Contractor of OPT's findings, conclusions, and recommendations.
- D. Construction Manager is to issue a statement to Contractor regarding the subsurface or physical condition in question and recommend action as appropriate after review of OPT's findings, conclusions, and recommendations. Construction Manager may instruct Contractor to resume Work if OPT determines that the subsurface or physical condition in question has been adequately documented.
- E. Contractor is entitled to an equitable adjustment in Contract Price or Contract Times to the extent that a differing subsurface or physical condition causes a change in Contractor's cost or time to perform the Work provided the condition falls within one or more of the categories described in Paragraph 5.04.A. Any adjustment in Contract Price for Work that is paid for on a unit price basis is subject to the provisions of Paragraph 13.03. Contractor is not entitled to an adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
1. Contractor knew of the existence of the subsurface or physical condition at the time Contractor made an offer to Owner with respect to Contract Price and Contract Times;
 2. The existence of the subsurface or physical condition could have been discovered or revealed by examinations, investigations, explorations, tests, or studies of the Site and contiguous areas expressly required by the Bidding Requirements or Proposal Requirements or the Contract Documents prior to when Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price; or
 3. Contractor failed to give notice as required by Paragraph 5.04.A.
- F. Contractor may submit a Change Proposal no later than 30 days after Construction Manager's issuance of the OPT's statement to Contractor regarding the subsurface or physical condition in question.

5.05 Underground Facilities

- A. The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to OPT by the owners of these Underground Facilities or by others. OPT is not responsible for the accuracy or completeness of information or data provided by others that OPT makes available to Contractor. Contractor is responsible for:
1. Reviewing and checking available information and data regarding existing Underground Facilities at the Site;
 2. Complying with Laws and Regulations related to locating Underground Facilities before beginning Work;
 3. Locating Underground Facilities shown or indicated in the Contract Documents;

4. Coordinating the Work with the owners, including Owner, of Underground Facilities during construction; and
 5. The safety and protection of existing Underground Facilities at or adjacent to the Site and repairing damage resulting from the Work.
- B. Notify Construction Manager and the owner of the Underground Facility immediately if an Underground Facility is uncovered or revealed at the Site that was not shown in the Contract Documents or was not shown with reasonable accuracy in the Contract Documents. Do not further disturb conditions or perform Work affected by this discovery, except in the event of an emergency as required by Paragraph 7.12.
- C. OPT is to take the following action after receiving notice from Construction Manager:
1. Promptly review the Underground Facility to determine if the Underground Facility was shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy;
 2. Identify and communicate with the owner of the Underground Facility;
 3. Prepare recommendations to OPT regarding Contractor's resumption of Work relating to this Underground Facility;
 4. Determine the extent to which a change is required in the Drawings or Specifications to document the consequences of the existence or location of the Underground Facility; and
 5. Construction Manager will advise Contractor of OPT's findings, conclusions, and recommendations and provide revised Drawings and Specifications if required.
- D. Construction Manager is to issue a statement to Contractor regarding the Underground Facility in question and recommend action as appropriate after review of OPT's findings, conclusions, and recommendations.
- E. Contractor is entitled to an equitable adjustment in the Contract Price or Contract Times as provided in Paragraphs 11.04 and 11.05 to the extent that the existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy. Any adjustment in Contract Price for Work that is paid for on a unit price basis is subject to the provisions of Paragraph 13.03.
- F. Contractor is not entitled an adjustment in the Contract Price or Contract Times with respect to an existing Underground Facility at the Site if:
1. Contractor knew of the existence of the existing Underground Facility at the Site at the time Contractor made an offer to Owner with respect to Contract Price and Contract Times;
 2. The existence of the existing Underground Facility at the Site could have been discovered or revealed by examinations, investigations, explorations, tests, or studies of the Site and contiguous areas expressly required by the Bidding Requirements or Proposal Requirements or the Contract Documents prior to when Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price; or
 3. Contractor failed to give notice as required by Paragraph 5.05.B.

- G. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of adjustments in the Contract Price or Contract Times no later than 30 days after Construction Manager's issuance of OPT's statement to Contractor regarding the Underground Facility.

5.06 Hazardous Environmental Conditions at Site

- A. The Supplementary Conditions identify those reports and drawings known to OPT relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and the Technical Data contained in these reports and drawings.
- B. Contractor may rely upon the accuracy of the Technical Data contained in reports and drawings relating to Hazardous Environmental Conditions identified in the Supplementary Conditions, but these reports and drawings are not Contract Documents. Except for the reliance on expressly identified Technical Data, Contractor may not rely upon or make claims against Owner's Indemnitees with respect to:
 - 1. The completeness of these reports and drawings for Contractor's purposes, including aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor or Contractor's safety precautions and programs related to Hazardous Environmental Conditions;
 - 2. Other data, interpretations, opinions, and information contained in these reports or shown or indicated in the drawings; or
 - 3. Any Contractor interpretation of or conclusion drawn from Technical Data or other data, interpretations, opinions, or information.
- C. The results of tests performed on materials described in environmental reports specifically prepared for the Project and made available to Contractor are defined as Technical Data unless Technical Data has been defined more specifically in the Supplementary Conditions.
- D. Contractor is not responsible for removing or remediating Hazardous Environmental Conditions encountered, uncovered, or revealed at the Site unless this removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- E. Contractor is responsible for controlling, containing, and duly removing and remediating Constituents of Concern brought to the Site by Contractor's Team and paying associated costs.
 - 1. Owner may remove and remediate the Hazardous Environmental Condition and impose a Set-off against payments to Contractor for associated costs if Contractor's Team creates a Hazardous Environmental Condition and Contractor does not take acceptable action to remove and remediate the Hazardous Environmental Condition.
 - 2. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE FAILURE TO CONTROL, CONTAIN, OR REMOVE A CONSTITUENT OF CONCERN BROUGHT TO THE SITE BY CONTRACTOR'S TEAM, OR TO A HAZARDOUS ENVIRONMENTAL CONDITION CREATED BY CONTRACTOR'S TEAM. NOTHING IN THIS PARAGRAPH SHALL OBLIGATE CONTRACTOR TO INDEMNIFY ANY INDIVIDUAL OR**

ENTITY FROM AND AGAINST THE CONSEQUENCES OF THAT INDIVIDUAL'S OR ENTITY'S OWN NEGLIGENCE.

- F. Immediately notify Construction Manager and take the following action if Contractor uncovers or reveals a Hazardous Environmental Condition at the Site or adjacent areas used by Contractor's Team that was not created by Contractor's Team:
1. Secure or otherwise isolate this condition;
 2. Stop Work in affected areas or connected with the condition, except in an emergency as required by Paragraph 7.12; and
 3. Do not resume Work relating to the Hazardous Environmental Condition or in affected areas until after OPT has obtained required permits and Construction Manager sends notice to Contractor:
 - a. Specifying that this condition and affected areas are or have been rendered safe for the resumption of Work; or
 - b. Specifying special conditions under which Work may be resumed safely.
 4. Owner may order the portion of the Work that is in the area affected by the Hazardous Environmental Condition to be deleted from the Work following the procedures in Article 11 if Contractor does not agree to:
 - a. Resume the Work based on a reasonable belief it is unsafe; or
 - b. Resume the Work under the special conditions provided by Construction Manager.
 5. Owner may have this deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- G. Contractor may submit a Change Proposal or Owner may impose a Set-off if an agreement is not reached within 10 days of Construction Manager's notice regarding the resumption of Work as to whether Contractor is entitled to an adjustment in Contract Price or Contract Times or on the amount or extent of adjustments resulting from this Work stoppage or special conditions under which Contractor agrees to resume Work.
- H. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 Performance, Payment, and Other Bonds

- A. Furnish a performance bond in an amount equal to the Contract Price as security for the faithful performance of Work. Contractor is to use amounts paid by Owner to Contractor under the Contract for the performance of the Contract. This bond is to remain in effect until 1 year after the date of final payment.
- B. Furnish a payment bond in an amount equal to the Contract Price as security to ensure payment of Contractor's obligations under the Contract Documents. This bond is to remain in effect until 1 year after the date of final payment.

1. Notify Construction Manager of claims filed against the payment bond. Notify the claimant and Construction Manager of undisputed amounts and the basis for challenging disputed amounts when a claimant has satisfied the conditions prescribed by Laws and Regulations. Promptly pay undisputed amounts.
 2. Owner is not liable for payment of costs or expenses of claimants under the payment bond. Owner has no obligations to pay, give notice, or take other action to claimants under the payment bond.
 3. OPT will provide a copy of the payment bond and payment information to Subcontractors, Suppliers, or other persons or entities claiming to have furnished labor or materials used in the performance of the Work that request this information in accordance with Laws and Regulations.
- C. Notify Construction Manager immediately if the surety on bonds furnished by Contractor:
1. Is declared bankrupt, or becomes insolvent;
 2. Has its right to do business in state in which the Project is located is terminated; or
 3. Ceases to meet the requirements of Paragraph 6.02.
- Provide a bond and surety which comply with the requirements of Paragraph 6.02 within 20 days after the event giving rise to this notification.
- D. Furnish other bonds as required by the Contract Documents.
- E. Owner may exclude Contractor from the Site and exercise Owner's termination rights under Article 16 if Contractor fails to obtain or maintain required bonds.

6.02 Licensed Sureties

- A. Provide bonds in the form prescribed by the Contract Documents from sureties named in the U.S. Department of the Treasury's Listing of Approved Sureties (Department Circular 570 "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies").
- B. Provide bonds required by the Contract Documents from surety companies that are duly licensed or authorized to provide bonds in the state in which the Project is constructed.

6.03 Insurance - General Provisions

- A. Obtain and maintain insurance with coverage amounts equal to or greater than the amounts specified in Section 00 73 16 "Insurance Requirements" or greater where required by Laws and Regulations.
- B. Obtain insurance from companies that are duly licensed or authorized in the state in which the Project is constructed to issue insurance policies and that have an A.M. Best rating of A-VIII or better.
- C. Deliver evidence of insurance in accordance with Section 00 73 16 "Insurance Requirements" to Owner to demonstrate that Contractor has obtained and is maintaining the policies, coverages, and endorsements required by the Contract. Provide copies of these certificates to Owner and additional insured.

- D. Furnish copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles upon request by Owner or any additional insured. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this paragraph.
- E. OPT's failure to demand such certificates or other evidence of Contractor's full compliance with the insurance requirements or failure to identify a deficiency in compliance from the evidence provided is not a waiver of Contractor's obligation to obtain and maintain the insurance required by the Contract Documents.
- F. Notify Owner if Contractor fails to purchase or maintain the insurance required by the Contract Documents. Do not perform any Work on the Project unless the required insurance policies are in effect. Owner may exclude Contractor from the Site and exercise Owner's termination rights under Article 16 if Contractor fails to obtain or maintain the required insurance.
- G. Owner may elect to obtain equivalent insurance to protect Owner's interests without prejudice to any other right or remedy if Contractor fails to obtain or maintain the required insurance. Owner may impose a reasonable Set-off against payments due under Article 15 to recover the cost of the insurance.
- H. Owner does not represent that the insurance coverage and limits established in this Contract are adequate to protect Contractor or Contractor's interests.
- I. The required insurance and insurance limits do not limit Contractor's liability under the indemnities granted to Owner's Indemnitees in the Contract Documents.
- J. Provide for an endorsement that the "other insurance" clause will not apply to OPT where OPT is an additional insured shown on the policy. Contractor's insurance is primary and non-contributory with respect to any insurance or self-insurance carried by OPT for liability arising out of operations under this Agreement.
- K. Include and list OPT and any other individuals or entities identified in the Section 00 73 16 "Insurance Requirements" as additional insureds on all policies except for the workers' compensation policy and Contractor's professional liability policy.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 Contractor's Means and Methods of Construction

- A. Contractor is solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. Provide professional engineering or other design services if the Contract Documents require such services or if Contractor determines that such services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety. Engineering or other design services are to be provided by a properly licensed design professional authorized to provide these services in the state in which the Project is constructed. Such services are not Owner-delegated professional design services under this Contract, and OPT does not have any responsibility with respect to:
 - 1. Contractor's determination of the need for such services;

2. The qualifications or licensing of the design professionals retained or employed by Contractor;
3. The performance of such services; or
4. Any errors, omissions, or defects in such services.

7.02 Supervision and Superintendence

- A. Supervise, inspect, and direct the performance of the Work.
- B. Provide a competent resident superintendent acceptable to OPT. The resident superintendent or acceptable qualified assistant is to always be present when Work is being done. Do not replace this resident superintendent except under extraordinary circumstances. Provide a replacement resident superintendent equally competent to the previous resident superintendent if replacement is required. Notify Owner prior to replacing the resident superintendent and obtain Owner's consent to the change in superintendent.

7.03 Labor; Working Hours

- A. Provide competent, suitably qualified personnel to complete the Work. Maintain good discipline and order at the Site. Contractor is responsible for all acts and omissions of Contractor's Team.
- B. Perform Work at the Site during regular working hours except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent to the Site and except as otherwise stated in the Contract Documents.
- C. Do not perform Work on a Saturday, Sunday, or Owner-observed holiday without Construction Manager's consent. If a legal holiday falls on a Saturday, it will be observed the preceding Friday. If a legal holiday falls on a Sunday, it will be observed the following Monday.
- D. Pay additional cost incurred by Owner for services of Construction Manager to observe Work constructed outside of regular working hours. Construction Manager will issue a Set-off in the Application for Payment for this cost per Paragraph 15.01.B.

7.04 Services, Materials, and Equipment

- A. Provide services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and other facilities and incidentals necessary for the performance, testing, startup, and completion of the Work, whether or not these items are specifically called for in the Contract Documents.
- B. Provide new materials and equipment to be incorporated into the Work. Provide special warranties and guarantees required by the Contract Document. Provide satisfactory evidence, including reports of required tests, as to the source, kind, and quality of materials and equipment as required by the Contract Documents or as requested by Construction Manager.

- C. Store, apply, install, connect, erect, protect, use, clean, and condition materials and equipment in accordance with instructions of the applicable Supplier, unless otherwise required by the Contract Documents.

7.05 Concerning Subcontractors, and Suppliers

- A. Contractor may retain Subcontractors and Suppliers which are acceptable to Owner for the performance of parts of the Work. Contractor must retain specific Subcontractors or Suppliers if required to do so by the Contract Documents. Contractor must use Subcontractors or Suppliers named in the Bid or Proposal if Contractor was selected in part based on these named Subcontractors or Suppliers.
- B. Submit a list of proposed Subcontractors and Suppliers to Construction Manager prior to entering into binding subcontracts or purchase orders. These proposed Subcontractors or Suppliers are deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 10 days after receiving this list.
- C. Owner may require the replacement of Subcontractors or Suppliers retained by Contractor. Provide an acceptable replacement for the rejected Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements, subject to Contractor's reasonable objections.
- D. Contractor may be entitled to an adjustment in Contract Price or Contract Times with respect to a replacement of Subcontractors or Suppliers required by Owner. Notify Construction Manager immediately if a replacement of Subcontractors or Suppliers increases the Contract Price or Contract Times. Initiate a Change Proposal for the adjustment within 10 days of Owner's notice to replace a Subcontractor or Supplier. Do not make the replacement until the change in Contract Price or Contract Times has been accepted by Owner if Change Proposal is to be submitted. Contractor is not entitled to an adjustment in Contract Price or Contract Times if OPT requires the replacement of the Subcontractor or Supplier based on an unacceptable safety record, lack of experience or qualifications, or other cause.
- E. Acceptance by Owner of Subcontractors, Suppliers, or other individuals or entities, whether initially or as a replacement, does not constitute a waiver of the obligation of Contractor to complete the Work in accordance with the Contract Documents.
- F. Maintain a current and complete list of Subcontractors and Suppliers that are to perform or furnish part of the Work.
- G. Contractor is fully responsible for the acts and omissions of Subcontractors and Suppliers and is solely responsible for scheduling and coordinating their Work.
- H. Require Subcontractors, Suppliers, and other individuals or entities performing or furnishing Work to communicate with OPT through Contractor.
- I. Contracts between Contractor and their Subcontractors or Suppliers may specifically bind the Subcontractors or Suppliers to the applicable terms and conditions of the Contract Documents. Contractor is responsible for meeting the requirements of the Contract Documents if they choose to not bind the Subcontractors or Suppliers to applicable terms or conditions of the Contract Documents.

- J. OPT may furnish information about amounts paid to Contractor for Work provided by Subcontractors or Suppliers to the entity providing the Work.
- K. Nothing in the Contract Documents:
 - 1. Creates a contractual relationship between members of OPT and members of Contractor's Team.
 - 2. Creates an obligation on the part of Owner to pay or to see to the payment of money due members of Contractor's Team, except as may be required by Laws and Regulations.

7.06 Patent Fees and Royalties

- A. Pay license fees, royalties, and costs incident to the use of inventions, designs, processes, products, or devices which are patented or copyrighted by others in the performance of the Work, or to incorporate these inventions, designs, processes, products, or devices which are patented or copyrighted by others in the Work. The Contract Documents identify inventions, designs, processes, products, or devices OPT knows are patented or copyrighted by others, or that its use is subject to patent rights or copyrights calling for the payment of a license fee or royalty to others. Contractor is to include the cost associated with the use of patented or copyrighted products or processes, whether specified or selected by Contractor, in the Contract Price.
- B. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO ANY INFRINGEMENT OF PATENT RIGHTS OR COPYRIGHTS BY CONTRACTOR'S TEAM INCIDENT TO THE USE IN THE PERFORMANCE OF THE WORK OR RESULTING FROM THE INCORPORATION IN THE WORK OF ANY INVENTION, DESIGN, PROCESS, PRODUCT, OR DEVICE.**

7.07 Permits

- A. Obtain and pay for construction permits and licenses, and certificates of occupancy, if required. OPT is to assist Contractor in obtaining permits and licenses when required to do so by applicable Laws and Regulations. Pay governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time the Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price.

7.08 Taxes

- A. Contractor is responsible for all taxes and duties arising out of the Work. Contractor is responsible for including in the Contract Price any applicable sales and use taxes and is responsible for complying with all applicable Laws and Regulations. Pay sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations.

7.09 Laws and Regulations

- A. Give required notices and comply with Laws and Regulations applicable to the performance of the Work. OPT is not responsible for monitoring Contractor's compliance with Laws or Regulations except where expressly required by applicable Laws and Regulations.

- B. Pay costs resulting from actions taken by Contractor that are contrary to Laws or Regulations. Contractor is not responsible for determining that the design aspects of the Work described in the Contract Documents is in accordance with Laws and Regulations. This does not relieve Contractor of its obligations under Paragraph 3.03.
- C. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES HARMLESS FROM ALL CLAIMS AND INDEMNIFIED COSTS RESULTING FROM ACTIONS TAKEN BY CONTRACTOR'S TEAM THAT ARE CONTRARY TO LAWS OR REGULATIONS.**
- D. Owner or Contractor may give notice to the other party of changes in Laws or Regulations that may affect the cost or time of performance of the Work, including:
 - 1. Changes in Laws or Regulations affecting procurement of permits; and
 - 2. Sales, use, value-added, consumption, and other similar taxes which come into effect after Contractor's Bid or Proposal is submitted or when Contractor negotiates the Contract Price.
- E. Contractor may submit a Change Proposal or Owner may initiate a Claim within 30 days of this notice if Owner and Contractor are unable to agree on entitlement to or on the amount or extent of adjustments in Contract Price or Contract Times resulting from these changes.

7.10 Safety and Protection

- A. Contractor is solely responsible for initiating, maintaining, and supervising safety precautions and programs relating to the Work. This responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their Work, nor for compliance with applicable safety Laws and Regulations.
- B. Take necessary precautions for the safety of persons on the Site or who may be affected by the Work, and provide the necessary protection to prevent damage, injury, or loss to:
 - 1. Work and materials and equipment to be incorporated in the Work, whether stored on or off the Site; and
 - 2. Other property at or adjacent to the Site, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement during construction.
- C. Comply with applicable Laws and Regulations relating to the safety and protection of persons or property. Erect and maintain necessary safeguards for safety and protection. Notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site when prosecution of the Work may affect them. Cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- D. Remedy damage, injury, or loss to property referred to in Paragraph 7.09.B caused by Contractor's Team. Pay remediation costs unless the damage or loss is:
 - 1. Attributable to the fault of the Contract Documents,
 - 2. Attributable to acts or omissions of OPT, or

3. Not attributable to the actions or failure to act of Contractor's Team.
- E. Contractor's duties and responsibilities for safety and protection of persons or the Work or property at or adjacent to the Site continues until Work is completed and resumes whenever Contractor's Team returns to the Site to fulfill warranty or correction obligations or to conduct other tasks.
- F. Comply with the applicable requirements of the Owner's safety program if required to do so in the Supplementary Conditions. A copy of the Owner's safety program will be provided in the Bidding Documents or Proposal Documents.
- G. Provide a qualified and experienced safety representative at the Site whose duties and responsibilities are the prevention of accidents and maintaining and supervising safety programs.

7.11 Hazard Communication Programs

- A. Coordinate the exchange of safety data sheets or other hazard communication information required to be made available or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.12 Emergencies

- A. Act to prevent threatened damage, injury, or loss in emergencies affecting the safety or protection of persons or the Work or property at or adjacent to the Site. Notify Construction Manager immediately if Contractor believes that significant changes in the Work or variations from the Contract Documents have been caused or are required because of this need to act. A Modification is to be issued by Construction Manager if OPT determines that the incident giving rise to the emergency action was not the responsibility of Contractor and that a change in the Contract Documents is required because of the action taken by Contractor in response to this emergency.

7.13 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that Work is in accordance with the Contract Documents and is not Defective. Owner is entitled to rely on Contractor's warranty and guarantee. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 7.14. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.13 is limited only by applicable Laws and Regulations restricting actions to enforce such rights. Assume and bear responsibility for costs and time delays associated with variations from the requirements of the Contract Documents.
- B. This Contractor's warranty and guarantee excludes defects or damage caused by abuse, improper maintenance or operation, or modification by OPT; or normal wear and tear under normal usage.

- C. Contractor's obligation to perform and complete Work in accordance with the Contract Documents is absolute. None of the following constitute an acceptance of Defective Work, a release of Contractor's obligation to perform Work in accordance with the Contract Documents or a release of Owner's warranty or guarantee rights under this Paragraph:
1. Observations by OPT;
 2. Recommendation by Construction Manager or payment by Owner of progress or final payments;
 3. The issuance of a certificate of Substantial Completion;
 4. The issuance of a certificate of Final Completion
 5. The end of the correction period established in Paragraph 7.14
 6. Use or occupancy of part of the Work by Owner;
 7. Review and approval of a Shop Drawing or Sample;
 8. Inspections, tests, or approvals by others; or
 9. Correction of Defective Work by Owner.
- D. The Contract Documents may require Contractor to accept the assignment of a contract between the Owner and a contractor or supplier. The specific warranties, guarantees, and correction obligations contained in an assigned contract govern with respect to Contractor's performance obligations to Owner for the Work described in an assigned contract.

7.14 Correction Period

- A. Promptly correct Defective Work without cost to Owner for 1 year after the date of Substantial Completion or longer periods of time prescribed by the terms of the Contract Documents.
- B. Promptly correct damages to the Site or adjacent areas that Contractor has arranged to use through construction easements or other agreements. Promptly correct damages to Work or the work of others. Make corrections without cost to Owner.
- C. Owner may have the Defective Work and damages described in Paragraphs 7.14.A and 7.14.B corrected if Contractor does not comply with the terms of Construction Manager's instructions, or in an emergency where delay would cause serious risk of loss or damage.
- D. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT OR THE CONTRACT DOCUMENTS AND TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES HARMLESS FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE CORRECTION OF DEFECTIVE WORK.**
- E. The correction period starts to run from the date when a specific item of equipment or systems are placed in continuous beneficial use by Owner before Substantial Completion of Work if so provided in the Specifications or if accepted for beneficial use by Owner.
- F. The correction period is extended for an additional period of 1 year for Defective Work corrected after the date of Substantial Completion or after the accepted date the

correction period starts to run as described in Paragraph 7.14.E. This extended correction period starts to run when Defective Work has been satisfactorily corrected under this Paragraph 7.14.

- G. Contractor's obligations under this Paragraph 7.14 are in addition to other obligations or warranties. The provisions of this Paragraph 7.14 are not a substitute for, or a waiver of, the provisions of applicable statutes of limitation or repose.

7.15 Indemnification

- A. **TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, AND IN ADDITION TO ANY OTHER OBLIGATIONS OF CONTRACTOR UNDER THE CONTRACT OR OTHERWISE, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER'S INDEMNITEES FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS ARISING OUT OF OR RELATING TO THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, ACTION, LOSS, OR DAMAGE IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE, OR DEATH, OR TO DAMAGE TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM BUT ONLY TO THE EXTENT CAUSED BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR'S TEAM.**
- B. The indemnification obligation under Paragraph 7.15.A is not limited by the amount or type of damages, compensation, or benefits payable by or for members of Contractor's Team or other individuals or entities under workers' compensation acts, disability benefit acts, or other employee benefit acts in claims against Owner's Indemnitees by an employee or the survivor or personal representative of employee of Contractor's Team.

7.16 Delegation of Professional Design Services

- A. Contractor is to provide professional design services required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures.
- B. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. This delegation will specify the performance and design criteria that such services must satisfy and the Submittals that Contractor must furnish to Construction Manager with respect to Owner delegated design. Contractor is not required to provide these professional services in violation of applicable Laws and Regulations.
- C. Owner-delegated professional design services provided through Contractor are to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and other Submittals prepared by such design professional. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Construction Manager, then such Shop Drawing or other Submittal must bear the design professional's written approval when submitted by Contractor to Construction Manager.
- D. OPT is entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by Contractor's design professionals, provided OPT has specified to Contractor the performance and design criteria that these services must satisfy.

- E. Pursuant to this Paragraph 7.16, OPT's review and approval of design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this paragraph;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor is not responsible for the adequacy of the performance or design criteria specified by OPT. Advise OPT if the performance or design criteria are known or considered likely to be inadequate or otherwise deficient.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 Other Work

- A. Owner may arrange for other work at or adjacent to the Site which is not part of the Contractor's Work. This other work may be performed by Owner's employees or through other contractors. Utility owners may perform work on their utilities and facilities at or adjacent to the Site. Include costs associated with coordinating with entities performing other work or associated with connecting to this other work in the Contract Price if this other work is shown in the Contract Documents.
- B. OPT is to notify Contractor of other work prior to starting the work and provide any knowledge they have regarding the start of utility work at or adjacent to the Site to Contractor.
- C. Provide other contractors:
 - 1. Proper and safe access to the Site;
 - 2. Reasonable opportunity for the introduction and storage of materials and equipment; and
 - 3. Reasonable opportunity to execute their work.
- D. Provide cutting, fitting, and patching of the Work required to properly connect or integrate with other work. Do not endanger the work of others by cutting, excavating, or otherwise altering the work of others without the consent of Construction Manager and the others whose work will be affected.
- E. Inspect the work of others and immediately notify Construction Manager if the proper execution of part of Contractor's Work depends upon work performed by others and this work has not been performed or is unsuitable for the proper execution of Contractor's Work. Contractor's failure to notify Construction Manager constitutes an acceptance of this other work as acceptable for integration with Contractor's Work. This acceptance does not apply to latent defects or deficiencies in the work of others.
- F. Take adequate measures to prevent damages, delays, disruptions, or interference with the work of Owner, other contractors, or utility owners performing other work at or adjacent to the Site.

- G. The provisions of this Article 8 are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.03.

8.02 Coordination

- A. Owner has sole authority and responsibility for coordination of this other work unless otherwise provided in the Contract Documents. Owner is to identify the entity with authority and responsibility for coordination of the activities of the various contractors, the limitations of their authority, and the work to be coordinated prior to the start of other work at or adjacent to the Site.

8.03 Legal Relationships

- A. Contractor may be entitled to a change in Contract Price or Contract Times if, while performing other work at or adjacent to the Site for Owner, the OPT, other contractor, or utility owner:
 - 1. Damages the Work or property of Contractor's Team;
 - 2. Delays, disrupts, or interferes with the execution of the Work; or
 - 3. Increases the scope or cost of performing the Work through their actions or inaction.
- B. Notify Construction Manager immediately of the event leading to a potential Change Proposal so corrective or mitigating action can be taken. Submit the Change Proposal within 30 days of the event if corrective action has not adequately mitigated the impact of the actions or inactions of others. Information regarding this other work in the Contract Documents is used to determine if Contractor is entitled to a change in Contract Price or Contract Times. Changes in Contract Price require that Contractor assign rights against the other contractor or utility owner to Owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Changes in Contract Times require that the time extension is essential to Contractor's ability to complete the Work within the Contract Times.
- C. Take prompt corrective action if Contractor's Team damages, delays, disrupts, or interferes with the work of Owner's employees, other contractors, or utility owners performing other work at or adjacent to the Site or agree to compensate other contractors or utility owners for correcting the damage. Promptly attempt to settle claims with other contractors or utility owners if Contractor damages, delays, disrupts, or interferes with the work of other contractors or utility owners performing other work at or adjacent to the Site.
- D. Owner may impose a Set-off against payments due to Contractor and assign the Owner's contractual rights against Contractor with respect to the breach of the obligations described in this Paragraph 8.03 to other contractors or utility owners if damages, delays, disruptions, or interference occur.
- E. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS AGREEMENT OR THE CONTRACT DOCUMENTS AND TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD OWNER'S INDEMNITEES**

HARMLESS FROM AND AGAINST ALL CLAIMS AND INDEMNIFIED COSTS RESULTING FROM CONTRACTOR'S TEAM'S ACTION OR INACTION RELATED TO DAMAGES, DELAYS, DISRUPTIONS, OR INTERFERENCE WITH THE WORK OF OWNER'S EMPLOYEES, OTHER CONTRACTORS, OR UTILITY OWNERS PERFORMING OTHER WORK AT OR ADJACENT TO THE SITE.

ARTICLE 9 – OWNER'S AND OPT'S RESPONSIBILITIES

9.01 Communications to Contractor

- A. OPT issues communications to Contractor through Construction Manager except as otherwise provided in the Contract Documents.

9.02 Replacement of Owner's Project Team Members

- A. Owner may replace members of OPT at its discretion.

9.03 Furnish Data

- A. OPT is to furnish the data required of OPT under the Contract Documents.

9.04 Pay When Due

- A. Owner is to make payments to Contractor when due as described in Paragraphs 15.01.D and 15.06.D.

9.05 Lands and Easements; Reports and Tests

- A. Owner's duties with respect to providing lands and easements are described in Paragraph 5.01. OPT will make copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site available to Contractor in accordance with Paragraph 5.03.

9.06 Insurance

- A. Owner's responsibilities with respect to purchasing and maintaining insurance are described in Article 6.

9.07 Modifications

- A. Owner's responsibilities with respect to Modifications are described in Article 11.

9.08 Inspections, Tests, and Approvals

- A. OPT's responsibility with respect to certain inspections, tests, and approvals are described in Paragraph 14.02.

9.09 Limitations on OPT's Responsibilities

- A. OPT does not supervise, direct, or have control or authority over, and is not responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or related safety precautions and programs, or for failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. OPT is not responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

- B. OPT is not responsible for the acts or omissions of Contractor's Team. No actions or failure to act, or decisions made in good faith to exercise or not exercise the authority or responsibility available under the Contract Documents creates a duty in contract, tort, or otherwise of OPT to the Contractor or members of Contractor's Team.

9.10 Undisclosed Hazardous Environmental Condition

- A. OPT's responsibility for undisclosed Hazardous Environmental Conditions is described in Paragraph 5.06.

9.11 Compliance with Safety Program

- A. Contractor is to inform OPT of its safety programs and OPT is to comply with the specific applicable requirements of this program.

ARTICLE 10 – DESIGN PROFESSIONAL'S AND CONSTRUCTION MANAGER'S STATUS DURING CONSTRUCTION

10.01 Owner's Representative

- A. Construction Manager is Owner's representative. The duties and responsibilities and the limitations of authority of Construction Manager as Owner's representative are described in the Contract Documents.

10.02 Visits to Site

- A. Design Professional is to make periodic visits to the Site to observe the progress and quality of the Work. Design Professional is to determine, in general, if the Work is proceeding in accordance with the Contract Documents based on observations made during these visits. Design Professional is not required to make exhaustive or continuous inspections to check the quality or quantity of the Work. Design Professional is to inform OPT of issues or concerns and Construction Manager is to work with Contractor to address these issues or concerns. Design Professional's visits and observations are subject to the limitations on Design Professional's authority and responsibility described in the Contract Documents.
- B. Construction Manager is to observe the Work to check the quality and quantity of Work, implement Owner's quality assurance program and administer the Contract as Owner's representative as described in the Contract Documents. Construction Manager's visits and observations are subject to the limitations on Construction Manager's authority and responsibility described in the Contract Documents.

10.03 Rejecting Defective Work

- A. OPT has the authority to reject Work in accordance with Article 14. Construction Manager is to notify Contractor of Defective Work of which it is aware and document when Defective Work has been corrected or accepted in accordance with Article 14.

10.04 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Construction Manager is to render decisions regarding non-technical or contractual/administrative requirements of the Contract Documents and will coordinate the response of OPT to Contractor.
- B. Design Professional is to render decisions regarding the conformance of the Work to the requirements of the Contract Documents. Design Professional will render a decision to either correct the Defective Work, or accept the Work under the provisions of Paragraph 14.04, if Work does not conform to the Contract Documents. Construction Manager will coordinate the response of OPT to Contractor.
- C. Construction Manager will issue a Request for a Change Proposal if a Modification is required. Construction Manager will provide documentation for changes related to the non-technical or contractual/administrative requirements of the Contract Documents. Design Professional will provide documentation if design related changes are required through Construction Manager.
- D. Contractor may appeal OPT's decision by submitting a Change Proposal if Contractor does not agree with the OPT's decision.

ARTICLE 11 – CHANGES TO THE CONTRACT

11.01 Amending and Supplementing the Contract Documents

- A. A Contract Amendment, Change Order, Work Change Directive, or Field Order may modify the Contract Documents. Modifications that include a change in the Contract Price or Contract Times can only be made in a Contract Amendment or Change Order.
- B. Changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other design or technical matters, must be supported by Design Professional's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of Design Professional.
- C. Proceed with the Changes in the Work or, in the case of a deletion in the Work, immediately cease construction activities related to the deleted Work upon receipt of the Modification.
- D. Contractor is not entitled to an increase in the Contract Price or an extension of the Contract Times with respect to Work performed that is not required by the Contract Documents, except in the case of an emergency as provided in Paragraph 7.12, or in the case of uncovering Work as provided in Paragraph 14.05. Contractor is responsible for costs and time delays associated with variations from the requirements of the Contract Documents unless the variations are specifically approved by Change Order.
- E. Acceptance of a Modification by Contractor constitutes agreement that the compensation provided by that Modification is the full, complete, and final compensation for all costs Contractor has or may incur because of or relating to this Modification whether these costs are known, unknown, foreseen, or unforeseen at this time, including any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Modification.

- F. Acceptance of a Modification by Contractor constitutes agreement that the changes in Contract Times are the complete and final adjustments for direct impacts to the ability of Contractor to complete the Work within the Contract Times and are the only adjustments to which Contractor is entitled.
- G. Perform added or revised Work under the applicable provisions of the Contract Documents for the same or similar Work unless different Drawings, Specifications, or directions are provided in the Modification.
- H. Nothing in this paragraph obligates Contractor to undertake Work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.02 Contract Amendments

- A. Owner and Contractor may modify the terms and conditions of the Contract Documents without the recommendation of Design Professional using a Contract Amendment.
- B. A Contract Amendment may also be used for authorizing a new task order for task order contracts or a new phase of the Work when using phased construction or purchasing Goods and Special Services to be incorporated into the Project. The Contract Amendment may be used to establish the Contract Price, Contract Times, or terms and conditions of the Contract for the new task order or phase of Work if not already established in the Contract Documents.

11.03 Change Orders

- A. All changes to the Contract Documents that include a change in the Contract Price or the Contract Times for previously authorized Work and changes to the Work requiring Design Professional's approval must be made by a Change Order. Change Orders prepared by Construction Manager may cover:
 - 1. Changes in Contract Price or Contract Times which are submitted by Contractor as a Change Proposal and agreed to by the parties;
 - 2. Changes in Contract Price or Contract Times to pay for undisputed Work performed in accordance with a Work Change Directive;
 - 3. Changes in Contract Price or Contract Times making final adjustments for Work covered under Alternates and Allowances;
 - 4. Changes in Contract Price or Contract Times making final adjustments to actual quantities for Unit Price Work;
 - 5. Changes in Contract Price resulting from an Owner Set-off, unless the set off has been successfully challenged by Contractor
 - 6. Changes in Contract Price or Contract Times resulting from resolution of Claims;
 - 7. Changes in Contract Price or Contract Times required because of Owner's acceptance of Defective Work under Paragraph 14.04 or Owner's correction of Defective Work under Paragraph 14.07, or
 - 8. Other similar provisions that will modify the Contract Price or Contract Times.

- B. A Change Order may also be used to establish modifications of the Contract Documents that do not affect the Contract Price or Contract Times.

11.04 Work Change Directives

- A. A Work Change Directive does not change the Contract Price or the Contract Times, but is evidence that the parties expect that the modifications ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations on the Contract Price and Contract Times.
- B. Contractor must submit a Change Proposal seeking an adjustment of the Contract Price or the Contract Times no later than 30 days after the completion of the Work set out in the Work Change Directive if negotiations are unsuccessful under the terms of the Contract Documents governing adjustments, expressly including Paragraphs 11.04 and 11.05.

11.05 Field Orders

- A. Design Professional may require minor changes in the Work that do not change the Contract Price or Contract Times using a Field Order through Construction Manager. Construction Manager may issue a Field Order for non-technical, administrative issues. Submit a Change Proposal if Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times before proceeding with the Work described in the Field Order.

11.06 Change Proposals

- A. Submit a Change Proposal to Construction Manager to:
 - 1. Request an adjustment in the Contract Price or Contract Times;
 - 2. Contest an initial decision by OPT concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents;
 - 3. Contest a Set-off against payment due; or
 - 4. Seek other relief under the Contract Documents.
- B. Notify Construction Manager immediately if a Change Proposal is to be submitted. Submit each Change Proposal to Construction Manager no later than 30 days after the event initiating the Change Proposal. Submit the following as part of the Change Proposal:
 - 1. Any proposed change in Contract Price, Contract Times, or other relief, accompanied by a statement that the requested Change Order is the entire adjustment to which Contractor believes it is entitled;
 - 2. The reason for the proposed change; and
 - 3. Supporting data, accompanied by a statement that the supporting data is accurate and complete.
- C. Construction Manager is to advise OPT regarding the Change Proposal. OPT is to review each Change Proposal and Contractor's supporting data, and within 30 days after receipt of the documents, direct Construction Manager to either approve or deny the Change Proposal in whole or in part. Construction Manager is to issue a Change Order for an approved Change Proposal. Change Proposals are denied if Construction Manager does not

act on the Change Proposal within 30 days. Contractor may start the time for appeal of the denial under Article 12.

11.07 Change of Contract Price; Contract Times

- A. Change Proposals for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.07. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12. An adjustment of the Contract Times is subject to the limitations described in Paragraph 4.03.
- B. An adjustment in the Contract Price is to be determined as follows:
 - 1. By applying unit prices to the quantities of the items involved, subject to the provisions of Paragraph 13.03, where the Work involved is covered by unit prices in the Contract Documents;
 - 2. By a mutually agreed lump sum where the Work involved is not covered by unit prices in the Contract Documents; or
 - 3. Payment based on the Cost of the Work determined as provided in Article 13 when the Work involved is not covered by unit prices in the Contract Documents or the parties do not reach a mutual agreement to a lump sum.
- C. The original Contract Price may not be increased by more than 25 percent unless further limited by Laws and Regulations. Owner may decrease the Work by up to 25 percent of the Contract Price without adjusting Contractor's fee.

11.08 Execution of Change Orders and Contract Amendments

- A. Each Change Order or Contract Amendment must be specific and final as to changes in Contract Price and Contract Times for the changes described in the Change Order or Contract Amendment. Acceptance of a Change Order or Contract Amendment by Contractor constitutes a full accord and satisfaction for all claims and costs of any kind, whether direct or indirect, including impact, delay, or acceleration damages related to the Change Order or Contract Amendment. The execution of a Change Order or Contract Amendment by Contractor constitutes conclusive evidence of Contractor's agreement to the ordered changes in the Work, with no reservations or other provisions allowing for future changes in the Contract Price or Contract Times. This Contract, as amended, forever releases any claim against Owner for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order or Contract Amendment. This release applies to claims related to the cumulative impact of all Change Orders or Contract Amendment and to any claim related to the effect of a change on unchanged Work.
- B. A Change Order or Contract Amendment is deemed to be in full force as if executed by Contractor if Contractor refuses to execute a Change Order or Contract Amendment that is required to be executed under the terms of this Paragraph 11.08.

11.09 Notice to Surety

- A. Notify the surety of Modifications affecting the general scope of the Work, changes in the provisions of the Contract Documents, or changes in Contract Price or Contract Times. Adjust the amount of each bond when Modifications change the Contract Price.

ARTICLE 12 – CLAIMS

12.01 Claims

- A. Follow the Claims process described in this Article for a demand or assertion by Contractor:
 - 1. Contesting an initial decision by OPT concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents;
 - 2. Contesting OPT's decision regarding a Change Proposal;
 - 3. Seeking resolution of a contractual issue that OPT has declined to address;
 - 4. Seeking other relief with respect to the terms of the Contract; or
 - 5. Any issue, request, demand, or dispute arising after Construction Manager's recommendation of Final Payment not specifically listed in the Certificate of Final Completion.
- B. Notify Construction Manager no later than 7 days after the start of the event giving rise to the Claim or, in the case of appeals regarding Change Proposals, within 7 days of the decision under appeal. The responsibility to substantiate a Claim rests with the entity making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Price or Contract Times, Contractor must certify that the Claim is made in good faith, that the supporting data is accurate and complete, and that to the best of Contractor's knowledge and belief, the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. The entity receiving a Claim is to review the Claim and consider its merits. The Owner and Contractor are to seek to resolve the Claim through the exchange of information and direct negotiations. The Owner and Contractor may extend the time for resolving the Claim by mutual agreement. Notify Construction Manager of actions taken on a Claim.
- D. Owner and Contractor may mutually agree to mediate the underlying dispute at any time after initiation of a Claim.
 - 1. The agreement to mediate suspends the Claims process.
 - 2. Owner or Contractor may unilaterally terminate the mediation process after 60 days from the agreement to mediate and resume the Claims process as of the date of the termination. The Claim process resumes as of the date of the conclusion of the mediation, as determined by the mediator, if the mediation is unsuccessful in resolving the dispute.
 - 3. Owner and Contractor are to each pay one-half of the mediator's fees and costs.
- E. If the entity receiving a Claim approves the Claim in part or denies it in part, this action is final and binding unless the other entity invokes the procedure described in Article 17 for final resolution of disputes within 30 days of this action.

- F. Notify Construction Manager if efforts to resolve the Claim are not successful and the Claim is denied. A denial of the Claim is final and binding unless the other entity invokes the procedure described in Article 17 for the final resolution of disputes within 30 days of the denial.
- G. The results of the agreement or action on the Claim is to be incorporated in a Change Order by Construction Manager to the extent they affect the Contract Documents, the Contract Price, or the Contract Times if the Owner and Contractor reach an agreement regarding a Claim.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. The Cost of the Work is the sum of costs described in this Paragraph 13.01, except those excluded in Paragraph 13.01.D, necessary for the proper performance of the Work. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price under cost-plus, time-and-materials, or other cost-based terms; or
 - 2. To determine the value of a Change Order, Change Proposal, Claim, Set-off, or other adjustment in Contract Price.
- B. Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the events giving rise to the adjustment when the value of the adjustment is determined on the basis of the Cost of the Work.
- C. Costs included in the Cost of the Work may not exceed the costs commonly incurred in the proximate area of the Site for similar work unless agreed to by Owner. Cost of the Work includes only the following items:
 - 1. Payroll costs for Contractor's employees performing the Work, including one foreman per crew, and other required and agreed upon personnel for the time they are employed on the Work. Employees are to be paid according to wage rates for job classifications as agreed to by Owner in advance of the Work. Rates paid for this Work are to be the same as paid for Contract Work as established by certified payroll. Payroll costs may include:
 - a. Actual costs paid for salaries and wages;
 - b. Actual cost paid for fringe benefits, which consists of:
 - 1) Social security contributions,
 - 2) Unemployment,
 - 3) Excise and payroll taxes,
 - 4) Workers' compensation,
 - 5) Health and retirement benefits, and
 - 6) Paid time off for sick leave, vacations and holidays; and

- c. Actual cost of additional compensation paid for performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, to the extent authorized by Owner.
- 2. Cost of materials and equipment furnished and incorporated in the Work, including transportation and storage costs and required Suppliers' field services. Contractor may retain cash discounts unless Owner provided funds to Contractor for early payment of these materials and equipment. Cash discounts are to be credited to Owner if Owner provides funds for early payment. Make provisions for trade discounts, rebates, refunds, and returns from sale of surplus materials and equipment and reduce the Cost of the Work by these amounts.
- 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. Obtain competitive bids from Subcontractors acceptable to Owner if required by OPT. Bids are to be opened in the presence of Construction Manager and other designated members for OPT. Provide copies of bids to Construction Manager to use in determining, with OPT, which bids are acceptable. The Subcontractor's Cost of the Work and fee are determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01 if the subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee.
- 4. Supplemental costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work;
 - b. Costs of materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site including transportation and maintenance costs related specifically to the Work;
 - c. Costs of engineers, architects, testing laboratories, surveyors, employed or retained for services specifically related to the Work.
 - d. Actual cost for construction equipment, including the costs of transporting, loading, unloading, assembling, dismantling, and removing construction equipment, whether owned by Contractor or rented from others.
 - 1) Cost for construction equipment must not exceed the cost shown in the most current edition of the rental rate book named in the Supplemental Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 2) With respect to Work that is the result of a Change Order, Change Proposal, Claim, Set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- e. Applicable sales, consumer, use, and other similar taxes related to the Work for which Owner is not exempt, and which Contractor pays consistent with Laws and Regulations;
 - f. Deposits lost for causes other than negligence of Contractor's Team;
 - g. Royalty payments and fees for permits and licenses;
 - h. Cost of additional utilities, fuel, and sanitary facilities at the Site;
 - i. Minor expense items directly required by the Work; and
 - j. Premiums for bonds and insurance required by the Contract Documents.
- D. The Cost of the Work does not include the following administrative costs which are to be covered by the Contractor's fee:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, safety managers, superintendents, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office, for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.C.1.
 - 2. The cost of purchasing, renting or furnishing any tool or equipment whose current price would be less than \$500 if purchased new at retail.
 - 3. Office expenses other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the actions of Contractor's Team for the correction of Defective Work, disposal of materials or equipment that do not comply with Specifications, and correcting damage to property.
 - 6. Losses, damages, and related expenses caused by damage to the Work or sustained by Contractor in connection with the performance of the Work. Contractor is entitled to recover costs if covered by Owner's insurance, if applicable. Such losses may include settlements made with the approval of Owner. Do not include these losses, damages, and expenses in the Cost of the Work when determining Contractor's fee.
 - 7. Expenses incurred in preparing and advancing Claims.
 - 8. Any Indemnified Cost paid with regard to Contractor's indemnification of Owner's Indemnitees.
 - 9. Other overhead or general expense costs and the costs of items not described in Paragraph 13.01.C.
 - 10. Contractor's fee is determined in accordance with the Agreement when the Work is performed on a cost-plus basis.

- E. Contractor's Fee is determined as follows for Work included in a Change Proposal.
1. Contractor's fee is 15 percent of the costs included in the Cost of the Work per Paragraph 13.01.C.1 for payroll cost and per Paragraph 13.01.C.2 for cost of materials and equipment furnished and incorporated in the Work.
 2. Contractor's fee is 5 percent of costs included in the Cost of the Work paid by Contractor for Work performed by Subcontractors per Paragraph 13.01.C.3.
 3. No fee will be payable for costs included in the Cost of the Work for supplemental costs per Paragraph 13.01.C.4.
 4. Fees are to be determined as follows where one or more tiers of Subcontracts are used:
 - a. The Subcontractor's fee is 15 percent for costs incurred under Paragraphs 13.01.C (excluding Paragraph 13.01.C.3) for the Subcontractor that performs the Work;
 - b. The Contractor and Subcontractors of a tier higher than that of the Subcontractor that performs the Work are allowed a fee of 5 percent of the total costs incurred by the next lower tier Subcontractor; and
 - c. Regardless of the number of subcontractor tiers involved, the maximum total fee to be paid by Owner will be no greater than 27% of the costs incurred by the Subcontractor that performs the Work.
- F. When a Change Proposal includes additions and credits, the Contractor's fee will be calculated on the sum of costs for each cost category in Paragraph 13.01.C. and applying the appropriate fee from Paragraph 13.01.E. The amount to be credited by Contractor to Owner for any Change Proposal which results in a net decrease in the Cost of Work will be the amount of the actual net decrease in the Cost of Work plus an additional amount equal to 5% of the actual net decrease in the Cost of Work.
- G. Establish and maintain records in accordance with generally accepted accounting practices and submit these records, including an itemized cost breakdown together with supporting data, in a form and at intervals acceptable to Construction Manager whenever the Cost of the Work is to be determined pursuant to this Paragraph 13.01.

13.02 Allowances

- A. Include allowances specified in the Contract Documents in the Contract Price and provide Work covered by the allowance as authorized by Owner through Construction Manager.
- B. Contractor agrees that:
1. The cash allowance is used to compensate Contractor for the cost of furnishing materials and equipment for the Work covered by the allowance item in the Contract Documents. Cost may include applicable taxes. Make provisions for trade discounts, rebates, and refunds and reduce the allowance costs by these amounts.
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances; and

3. Costs for cash allowances and installation costs as described in Paragraphs 13.02.B.1 and 13.02.B.2 above are included in the Contract Price.
- C. Construction Manager will issue a Change Order to adjust the Contract Price by the difference between the allowance amount and the actual amount paid by Contractor for Work covered by the allowance. The Change Order will be issued at the time costs are incurred by Contractor for Work covered by the allowance and this Work is included on the Application for Payment.

13.03 Unit Price Work

- A. The initial Contract Price for Unit Price Work is equal to the sum of the unit price line items in the Agreement. Each unit price line item amount is equal to the product of the unit price for each line item times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparing offers and determining an initial Contract Price. Payments to Contractor for Unit Price Work are to be based on actual quantities measured for Work in place.
- C. Each unit price is deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Construction Manager is to determine the actual quantities and classifications of Unit Price Work performed by Contractor to be incorporated into each Application for Payment. Construction Manager's decision on actual quantities is final and binding, subject to the provisions of Paragraph 13.03.E.
- E. Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price within 30 days of Construction Manager's decision under Paragraph 13.03.D, if:
 1. The total cost of a particular item of Unit Price Work amounts to 20 percent or more of the total Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 20 percent from the estimated quantity of an item indicated in the Agreement;
 2. There is no corresponding adjustment with respect to other items of Work; and
 3. Contractor believes it has incurred additional expense as a result of this condition or if Owner believes that the quantity variation entitles Owner to an adjustment in the Contract Price.
- F. Construction Manager will issue a Change Order adjusting estimated quantities to actual quantities to determine the final Contract Price.

13.04 Contingencies

- A. Contingency funds may be included in the Contract Price to pay for Work not defined specifically by the Contract Documents that is essential to the completion of the Project. Contingency funds will be as described in the Agreement.

- B. The contingency funds may be used for costs incurred by Contractor, provided these costs are approved by Owner. Costs are to be determined and documented in accordance with Paragraph 13.01. The contingency funds are not to be used for the following items:
 - 1. Cost overruns due to changes in material costs after the Contract Price is established, unless specific price escalation provisions are made in the Agreement.
 - 2. Rework required to correct Defective Work.
 - 3. Inefficiencies in completing the Work due to Contractor's selected means, methods, sequences, or procedures of construction.
 - 4. Work Contractor failed to include in the Contract Price.
 - 5. Changes required by changes in Laws and Regulations enacted after the Contract Price is established.
 - 6. Any Work that does not constitute a change in Scope in the Work included in the Contract Price.
- C. Construction Manager is to issue a Change Order for approved expenditures from contingency funds. When the Change Order is issued, the costs are to be added to the Application for Payment. Contractor is to maintain a tabulation showing the contingency amount, adjustments to the contingency amount, and amounts remaining as the Project progresses.
- D. Any contingency amounts that are not included in a Change Order are retained by Owner. A Change Order will be issued to deduct unused contingency amounts from the Contract Price prior to Final Payment.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work

- A. Provide safe access to the Site and the Work for the observation, inspection, and testing of the Work in progress. Contractor can require compliance with Contractor's safety procedures and programs as part of providing safe access.

14.02 Tests, Inspections, and Approvals

- A. OPT may retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform inspections. Cooperate with inspection and testing personnel and assist with providing access for required inspections, tests, and handling test specimens or Samples.
- B. Arrange for and facilitate inspections, tests, and approvals required by Laws or Regulations of governmental entities having jurisdiction that require Work to be inspected, tested, or approved by an employee or other representative of that entity. Pay associated costs and furnish Construction Manager with the required certificates of inspection or approval.
- C. Arrange, obtain, and pay for inspections and tests required:
 - 1. By the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to OPT;

2. To attain OPT's acceptance of materials or equipment to be incorporated in the Work;
 3. By manufacturers of equipment furnished under the Contract Documents;
 4. For testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work;
 5. For acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work;
 6. For re-inspecting or retesting Defective Work, including any associated costs incurred by the testing laboratory for cancelled tests or standby time; and
 7. For retesting due to failed tests.
- D. Provide independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to OPT to provide these inspections and tests.

14.03 Defective Work

- A. It is Contractor's obligation to ensure that the Work is not Defective.
- B. OPT has the authority to determine whether Work is Defective and to reject Defective Work.
- C. Construction Manager is to notify Contractor of Defective Work of which OPT has actual knowledge.
- D. Promptly correct Defective Work.
- E. Take no action that would void or otherwise impair Owner's special warranties or guarantees when correcting Defective Work.
- F. Pay claims, costs, losses, and damages arising out of or relating to Defective Work, including:
 1. Costs for correction, removal, and replacement of Defective Work;
 2. Cost of the inspection and testing related to correction of Defective Work;
 3. Costs for Design Professional's fees associated with review and approval of design modifications for correction, removal, and replacement of Defective Work.
 4. Fines levied against Owner by governmental authorities because of Defective Work; and
 5. Costs of repair or replacement of work of others resulting from Defective Work.

14.04 Acceptance of Defective Work

- A. Owner may elect to accept Defective Work instead of requiring correction or removal and replacement of Defective Work provided:
 1. This acceptance occurs prior to final payment;
 2. Design Professional confirms that the Defective Work is in general accordance with the design intent and applicable design principles; and

3. Design Professional confirms that acceptance of the Defective Work does not endanger public health or safety.
- B. Owner may impose a reasonable Set-off against payments due under Article 15 for costs associated with OPT's evaluation of Defective Work to determine if it can be accepted and to determine the diminished value of the Work. Owner may impose a reasonable Set-off against payments due under Article 15 if the parties are unable to agree as to the decrease in the Contract Price to compensate Owner for the diminished value of Defective Work accepted. Construction Manager is to issue a Change Order for acceptance of the Defective Work prior to final payment. Pay an appropriate amount to Owner if the acceptance of Defective Work occurs after final payment.

14.05 Uncovering Work

- A. OPT has the authority to require inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. Work that is covered prior to approval of Construction Manager must be uncovered for OPT's observation if requested by Construction Manager. Pay for uncovering Work and its subsequent restoration unless Contractor has given Construction Manager timely notice of Contractor's intention to cover the Work and Construction Manager fails to act with reasonable promptness in response to this notice.
- C. Provide necessary labor, material, and equipment and uncover, expose, or otherwise make available the portion of the Work suspected of being Defective for observation, inspection, or testing if OPT considers it necessary or advisable that covered Work be observed by Design Professional or inspected or tested by others as directed by Construction Manager.
 1. Pay for claims, costs, losses, and damages associated with uncovering, exposing, observing, inspecting, and testing if it is found that the uncovered Work is Defective. Pay costs for correction of Defective Work. Pay for reconstruction, repair, or replacement of work of others if it is found that the uncovered Work is Defective.
 2. Submit a Change Proposal for an increase in the Contract Price or an extension of the Contract Times directly attributable to this uncovering, exposure, observation, inspection, testing, and reconstruction if the uncovered Work is found to not be Defective.

14.06 Owner May Stop the Work

- A. Owner may order Contractor to stop the Work if:
 1. The Work is Defective;
 2. Contractor fails to supply sufficient skilled workers or suitable materials or equipment;
or
 3. Contractor performs Work that may fail to conform to the Contract Documents when completed.
- B. This stop work order is to remain in effect until the reason for the stop work order has been eliminated. Owner's right to stop the Work does not create a duty to exercise this right for the benefit of Contractor's Team or surety.

14.07 Owner May Correct Defective Work

- A. Owner may remedy Defective Work after 7 days' notice to Contractor if Contractor fails to correct Defective Work, or to remove and replace Defective Work as required by OPT;
- B. Owner may:
 - 1. Exclude Contractor from the Site;
 - 2. Take possession of the Work and suspend Contractor's services related to the Work; and
 - 3. Incorporate stored materials and equipment in the Work.
- C. Allow OPT access to the Site and off-site storage areas to enable Owner to exercise the rights and remedies under this paragraph.
- D. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 are to be charged against Contractor as a Set-off against payments due under Article 15. These claims, costs, losses, and damages include costs of repair and the cost of replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's Defective Work.
- E. Contractor is not allowed an extension of the Contract Times because of delays in the performance of the Work attributable to the exercise of the Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; FINAL COMPLETION

15.01 Progress Payments

- A. Progress payments are to be submitted to Construction Manager on the Application for Payment form provided by Construction Manager following procedures in the Contract Documents.
 - 1. Progress payments for lump sum Work are to be paid based on the earned value to date at the amounts shown in the Schedule of Values submitted as required by Paragraph 2.03. Final payment will be for the total lump sum amount.
 - 2. Progress payments for Unit Price Work are based on the number of units completed as determined under the provisions of Paragraph 13.03.
 - 3. Progress payments for Work to be paid based on the Cost of the Work per Paragraphs 13.01, 13.02 and 13.04 are to be paid for Work completed by Contractor during the pay period.
- B. Reduction in Payment by Owner:
 - 1. Owner is entitled to impose a Set-off against payment based on the following:
 - a. Claims made against Owner or costs, losses, or damages incurred by Owner related to:
 - 1) Contractor's conduct in the performance of the Work, including workplace injuries, non-compliance with Laws and Regulations, or patent infringement; or

- 2) Contractor's failure to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site, including workplace injuries, property damage, and non-compliance with Laws and Regulations.
 - b. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - c. Work is Defective, or completed Work has been damaged by Contractor's Team, requiring correction or replacement;
 - d. Owner has been required to correct Defective Work or complete Work in accordance with Paragraph 14.07;
 - e. The Contract Price has been reduced by Change Orders;
 - f. Events have occurred that would constitute a default by Contractor justifying a termination for cause;
 - g. Liquidated or other damages have accrued because of Contractor's failure to achieve Milestones, Substantial Completion, or completion of the Work;
 - h. Liens have been filed regarding the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of these Liens;
 - i. Owner has been notified of failure to make payments to Subcontractors, Suppliers, or Employees;
 - j. Failure to submit up-to-date record documents as required by the Contract Documents;
 - k. Failure to submit monthly Progress Schedule updates or revised schedules as requested by Construction Manager;
 - l. Failure to provide Project photographs required by the Contract Documents;
 - m. Failure to provide Certified Payroll required by the Contract Documents;
 - n. Compensation for OPT for overtime charges of Construction Manager, third review of Shop Drawings, review of substitutions, re-inspection fees, inspections or designs related to correction of Defective Work, or other services identified as requiring payment by Contractor;
 - o. Costs for tests performed by Owner to verify that Work previously tested and found to be Defective has been corrected;
 - p. OPT has actual knowledge of the occurrence of events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents with associated cost impacts;
 - q. Payment would result in an over-payment of the Contract Price; or
 - r. Other items entitling Owner to a Set-off against the amount recommended.
2. Compensation for services of OPT staff is to be at the rates established in the Supplementary Conditions.

3. Construction Manager is to notify Contractor stating the amount and the reasons for an imposed Set-off. Owner is to pay Contractor amounts remaining after deduction of the Set-off. Owner is to pay the Set-off amount agreed to by Owner and Contractor if Contractor remedies the reasons for the Set-off. Contractor may submit a Change Proposal contesting the Set-off.
- C. No payment will be made for Work authorized by a Work Change Directive until the Work Change Directive is incorporated into a Change Order, unless arrangements or interim payments have been included in the Work Change Directive. Payment can be included in an Application for Payment when the Change Order is approved.
- D. Owner is to pay the amount of payment recommended by Construction Manager within 30 days after receipt of the Application for Payment and accompanying documentation from Construction Manager.
- E. Contractor certifies that all Work, including materials, covered by each Application for Payment have been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous payment has been made by Owner, and that the current payment amount shown in this Application for Payment is due.

15.02 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to the Work, materials, and equipment furnished under the Contract is to pass to Owner free and clear of Liens, title defects, and patent, licensing, copyright, or royalty obligations no later than 7 days after the time of payment by Owner of the Application for Payment which includes these items.

15.03 Substantial Completion

- A. Notify Construction Manager when the Work or portion of the Work to be accepted under Paragraph 15.04 is substantially complete and request a Certificate of Substantial Completion.
- B. OPT is to inspect the Work after Contractor's notification to determine if the Work is substantially complete. Construction Manager is to either issue the Certificate of Substantial Completion which sets the date of Substantial Completion or notify Contractor of the reasons the Project is not considered to be substantially complete.
- C. The OPT and Contractor are to meet to discuss Owner's use or occupancy of the Work following Substantial Completion. Items to be discussed at this meeting include:
 1. Review of insurance policies with respect to the end of the Contractor's coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner;
 2. Owner's assumption of responsibility for security, operation, protection of the Work, maintenance, and utilities upon Owner's use or occupancy of the Work;
 3. Contractor's obligations for operations and maintenance during performance and acceptance testing;
 4. Contractor's access to the Site to complete punch list items; and

5. Procedures for correction of Defective Work during the one-year correction period.

15.04 Partial Utilization

- A. Owner may use or occupy substantially completed parts of the Work which are specifically identified in the Contract Documents, or which OPT and Contractor agree constitutes a separately functioning and usable part of the Work prior to Substantial Completion of the Work. Owner must be able to use that part of the Work for its intended purpose without significant interference with Contractor's performance of the remainder of the Work. Contractor and OPT are to follow the procedures of Paragraph 15.03 for this part of the Work.
- B. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Article 6.

15.05 Final Inspection

- A. OPT is to make a final inspection upon notice from Contractor that the entire Work or portion to be accepted under Paragraph 15.04 is complete. Construction Manager is to notify Contractor of Work determined to be incomplete or Defective. Immediately take corrective measures to complete the Work and correct Defective Work.
- B. Notify Construction Manager when the entire Project and ready for Final Payment under Paragraph 15.06 and request a Certificate of Final Completion.
- C. OPT is to inspect the Work after Contractor's notification to determine if the Project is complete. Construction Manager is to either issue the Certificate of Final Completion which sets the date of Final Completion or notify Contractor of the reasons the Project is not considered to be complete.

15.06 Final Payment

- A. Make application for final payment after completing required corrections identified during the final inspection and delivering items and documents required by the Contract Documents. Provide the following with the final Application for Payment:
 - 1. Consent of Surety to Final Payment acknowledging unsettled disputes; or
 - 2. Affidavit of Payment of Debts and Claims or Affidavit of Release of Liens or furnish receipts or releases from Subcontractors and Suppliers when a payment bond is not required.
- B. Construction Manager is to either recommend payment of the final Application for Payment to Owner if OPT is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled or notify Contractor of OPT's reasons for not recommending final payment.
- C. The Work is complete, subject to surviving obligations, when it is ready for final payment as established by the Construction Manager's recommendation of payment of the final Application for Payment to Owner and the issuance of a Certificate of Final Completion.
- D. Owner is to pay the amount of final payment recommended by Construction Manager within 30 days after receipt of the final Application for Payment and accompanying

documentation from Construction Manager; unless additional time is required for approval of a governing board or entity. Payment will be within 30 days of approval by the governing board or entity.

15.07 Waiver of Claims

- A. The making of final payment does not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from:
 - 1. Unsettled Liens or claims for non-payment;
 - 2. Defective Work appearing after final inspection pursuant to Paragraph 15.05;
 - 3. Contractor's failure to comply with the terms of special guarantees specified in the Contract Documents;
 - 4. Outstanding Claims or express reservation of rights by Owner; or
 - 5. Contractor's continuing obligations under the Contract Documents.
- B. Contractor waives claims and rights against Owner by accepting final payment except for those Claims made in accordance with the provisions of Article 17 and specifically noted in the Certificate of Final Completion.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

- A. Owner may suspend the Work or a portion of the Work for a period of not more than 90 consecutive days, at any time and without cause, by notice to Contractor. This notice fixes the date on which Contractor is to resume Work. Contractor is entitled to adjustments in the Contract Price and Contract Times directly attributable to this suspension. Submit a Change Proposal seeking an adjustment no later than 30 days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of one or more of the following events constitutes a default by Contractor and justifies termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents, including failure to supply sufficient skilled workers or suitable materials or equipment;
 - 2. Failure to adhere to the Progress Schedule;
 - 3. Failure of Contractor to provide a satisfactory replacement bond or insurance in the event either is lost or canceled;
 - 4. Failure of Contractor to maintain financial solvency to adequately complete the Project as indicated by one or more of the following:
 - a. A petition of bankruptcy is filed by or against Contractor,
 - b. Contractor is adjudged as bankrupt or insolvent,

- c. Contractor or surety makes a general assignment for the benefit of creditors,
 - d. A receiver is appointed for the benefit of Contractor's creditors, or
 - e. A receiver is appointed because Contractor's insolvency;
- 5. Contractor's disregard of Laws or Regulations of public bodies having jurisdiction; or
- 6. Contractor's repeated disregard of the authority of OPT.
- B. Contractor and surety must provide adequate assurance of future performance in accordance with the Contract Documents that is satisfactory to Owner if Contractor is believed to be in financial distress due to the existence of one or more of the indicators listed in Paragraph 16.02.A.4. Owner may terminate this Contract if Contractor and surety fail to provide adequate documentation satisfactory to Owner within 10 days of Construction Manager's request for this information.
- C. Owner may declare Contractor to be in default, give notice to Contractor and surety that the Contract is terminated, and enforce the rights available to Owner under the performance bond after giving Contractor and surety 10 days' notice that one or more of the events identified in Paragraph 16.02.A has occurred.
- D. Owner may exclude Contractor from the Site, take possession of the Work, incorporate the materials and equipment stored and complete the Work as Owner may deem expedient if Owner has terminated the Contract for cause.
- E. Owner may elect not to proceed with termination of the Contract under this Paragraph 16.02 if Contractor begins to cure the cause for termination within 7 days of receipt of notice of intent to terminate.
- F. Contractor is not entitled to receive further payments until the Work is completed if Owner proceeds as provided in this Paragraph 16.02. The amount of the Contract Price remaining is to be paid to Contractor if the unpaid balance exceeds the cost to complete the Work. This cost to complete the Work may include related claims, costs, losses, damages, and the fees and charges of engineers, architects, attorneys, and other professionals retained by Owner. Pay the difference to Owner if the cost to complete the Work including related claims, costs, losses, and damages exceeds the unpaid balance of the Contract Price. Claims, costs, losses, and damages incurred by Owner are to be reviewed as to their reasonableness and incorporated in a Change Order by Construction Manager. Owner is not required to obtain the lowest price for the Work performed when exercising its rights or remedies under this paragraph.
- G. Termination does not affect the rights or remedies of Owner against Contractor or against surety under the payment bond or performance bond. Owner does not release Contractor from liability by paying or retaining money due Contractor.

16.03 Owner May Terminate for Convenience

- A. Owner may terminate the Contract without cause after giving 7 days' notice to Contractor of the effective date of termination. Contractor is to be paid for the following if Owner terminates for convenience:
 - 1. Work completed in accordance with the Contract Documents prior to the effective date of termination;

2. Actual costs sustained prior to the effective date of termination for Work in progress, plus a fair and reasonable amount for overhead and profit; fee calculated in accordance with Paragraph 11.04.D; and
 3. Reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor will not be paid for loss of anticipated profits or revenue, post termination overhead costs, or other economic loss arising out of or resulting from this termination.

16.04 Contractor May Stop Work or Terminate

- A. Contractor may terminate the Contract and issue a Change Proposal requesting payment from Owner on the same terms as provided in Paragraph 16.03 after 10 days' notice to Construction Manager provided that, through no act or fault of Contractor:
1. The Work is suspended for more than 90 consecutive days by Owner;
 2. Construction Manager fails to act on an Application for Payment within 30 days after it is submitted; or
 3. Owner fails to pay Contractor sums determined to be due, other than the final payment, within 30 days after payment is recommended by Construction Manager; and
 4. OPT does not remedy this suspension or failure within 10 days after receipt of the notice.
- B. Contractor may stop Work, without prejudice to other rights or remedies in lieu of terminating the Contract if Construction Manager has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed to pay Contractor within 30 days after payment is recommended by Construction Manager. The provisions of this Paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times for damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. The Owner or Contractor may appeal a Claim, approved or denied in part or in full, by:
1. Electing to invoke the dispute resolution process if one is provided for in the Supplementary Conditions;
 2. Agreeing with the other party to submit the dispute to a dispute resolution process; or
 3. Notifying the other party of the intent to submit the dispute to a court of competent jurisdiction if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to.

ARTICLE 18 – MISCELLANEOUS

18.01 Computation of Times

- A. Exclude the first day and include the last day when determining dates for a period referred to in the Contract Documents by days. The last day of this period is to be omitted from the determination if it falls on a Saturday, Sunday, or a legal holiday.
- B. All references and conditions for a calendar day contract in the Contract Documents apply for a Fixed Date Contract. A fixed date contract is one in which the calendar dates for reaching Substantial Completion and/or Final Completion are specified in lieu of identifying the number of calendar days involved.

18.02 Independent Contractor

- A. Contractor is to perform its duties under this Contract as an independent contractor. Contractor's Team and their personnel are not considered to be employees or agents of Owner. Nothing in this Agreement is to be interpreted as granting Contractor's Team the right or authority to make commitments for Owner. This Agreement does not constitute or create a joint venture, partnership, or formal business organization of any kind.

18.03 Cumulative Remedies

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available to the Owner or Contractor by these General Conditions are in addition to, and are not a limitation of, the rights and remedies which are otherwise imposed or available by:
 - 1. Laws or Regulations;
 - 2. Special warranties or guarantees; or
 - 3. Other provisions of the Contract Documents.
- B. The provisions of this Paragraph are as effective as if repeated specifically in the Contract Documents regarding each duty, obligation, right, and remedy to which they apply.

18.04 Limitation of Damages

- A. Owner's Indemnitees are not liable to Contractor for claims, costs, losses, or damages sustained by Contractor's Team associated with other projects or anticipated projects.

18.05 No Waiver

- A. The failure of Owner or Contractor to enforce any provision of this Contract does not constitute a waiver of that provision, affect the enforceability of that provision, or the enforceability of the remainder of this Contract.

18.06 Severability

- A. If a court of competent jurisdiction renders a part of this Contract invalid or unenforceable, that part is to be severed and the remainder of this Contract continues in full force.

18.07 Survival of Obligations

- A. Representations, indemnifications, warranties, guarantees, and continuing obligations required by the Contract Documents survive completion and acceptance of the Work or termination of the Contract.

18.08 No Third-Party Beneficiaries

- A. Nothing in this Contract can be construed to create rights in any entity other than the Owner and Contractor. Neither the Owner nor Contractor intends to create third party beneficiaries by entering into this Contract.

18.09 Successors and Assigns

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents

18.10 Assignment of Contract

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights or interests in the Contract will be binding on the other party without the written consent of the other party. Money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.11 No Waiver of Sovereign Immunity

- A. Owner has not waived its sovereign immunity by entering into and performing its obligations under this Contract.

18.12 Controlling Law

- A. This Contract is to be governed by the law of the state in which the Project is located.
- B. Venue for legal proceedings lies exclusively in the county in which the Owner's home office is located unless specified elsewhere in the Contract Documents.

END OF SECTION

00 73 00 SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement Section 00 72 00 "General Conditions." The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below.

The paragraph numbers used in the Supplementary Conditions correspond to the General Condition paragraphs they modify with the prefix "SC" added—for example, "Paragraph SC-4.05." modifies General Conditions Paragraph 4.05.

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

SC-1.01 Defined Terms

- A. The Owner's Project Team as defined in the Paragraph 1.01.A.45 of the General Conditions consists of the following organizations:
 - 1. City of Clayton, 837 Highway 76 West, Suite 101, Clayton, GA 30525
 - 2. Eric Nease, 2545 Heritage Court, Buford, GA 30518

ARTICLE 2 – PRELIMINARY MATTERS

SC-2.02 Copies of Documents

- A. Delete Paragraph 2.02.A in its entirety and insert the following in its place:
 - "A. Owner will furnish three (3) printed copies of the Contract Documents (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction."

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

SC-4.03 Delays in Contractor's Progress

- A. Amend Paragraph 4.03.D by adding the following subparagraphs:
 - "1. Abnormal Weather Conditions:
 - a. If "abnormal weather conditions" are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.

- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
 - a) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds 0.2 inches of precipitation (as rain equivalent, based on the snow/rain conversion indicated in Exhibit A – Foreseeable Bad Weather Days.
 - b) Ambient outdoor air temperature at 11:00 a.m. (low temperature threshold) is equal to or less than 32 degrees Fahrenheit.
 - c) Ambient outdoor temperature at 3:00 p.m. (high temperature threshold) is equal to or greater than 103 degrees Fahrenheit.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by the National Weather Service (NWS) weather monitoring station at Greenville-Spartanburg, SC.
 - 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Exhibit A.
 - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit A will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.
 - a) Incorporate “bad weather days” into the schedule for construction. Schedule construction so that the Work will be completed within the Contract Times assuming that these “bad weather days” will occur. Incorporate residual impacts following “bad weather days” such as limited access to and within the Site, inability to work due to wet or muddy Site conditions, delays in delivery of equipment and materials and other impacts related to precipitation days when developing the schedule for Construction. Include all costs associated with these precipitation days and residual impacts in the Contract Price.

- b) A total of three (3) “bad weather days” has been set for this Project. An extension of time due to “bad weather days” will be considered only after three (3) “bad weather days” have been exceeded during the substantial completion time and Construction Manager has determined that a detrimental impact to the construction schedule resulted from the excessive rainfall. “Bad weather days” days are to be incorporated into the schedule as a line item and unused rain days will be considered float time which may be consumed by Owner or Contractor in delay claims.”

ARTICLE 5 – SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

SC-5.03 Subsurface and Physical Conditions

- A. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.03 of the General Conditions related to subsurface and physical conditions.
1. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

| Report Title | Report Date | Technical Data |
|---------------------|--------------------|-----------------------|
| None | | |
| | | |
| | | |

2. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

| Drawing Title | Drawing Date | Technical Data |
|----------------------|---------------------|-----------------------|
| None | | |
| | | |
| | | |

3. Copies of reports and drawings may be downloaded from the procurement website.

SC-5.06 Hazardous Environmental Conditions at Site

- A. This Supplementary Condition identifies the reports and drawings referenced in Paragraph 5.06 of the General Conditions related to Hazardous Environmental Conditions at the Site.
1. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

| Report Title | Report Date | Technical Data |
|---------------------|--------------------|-----------------------|
| None | | |
| | | |

| Report Title | Report Date | Technical Data |
|--------------|-------------|----------------|
| | | |

2. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

| Drawing Title | Drawing Date | Technical Data |
|---------------|--------------|----------------|
| None | | |
| | | |
| | | |

3. Copies of reports and drawings may be downloaded from the procurement website.

ARTICLE 6 – BONDS AND INSURANCE

SC-6.01 Performance, Payment, and Other Bonds

- A. Supplement Paragraph 6.01.B. by adding the following subparagraph:
- “4. Contractor will be responsible for filing a Notice of Commencement in accordance with O.C.G.A. §36-91-92 and must provide Owner with proof of compliance within a reasonable time thereafter.”

END OF SECTION

EXHIBIT A – FORESEEABLE BAD WEATHER DAYS

| Month | Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) | Ambient Outdoor Air Temperature (deg F) | |
|---|--|--|---|
| | | Number of Foreseeable Bad Weather Days in Month Based on Low Temperature | Number of Foreseeable Bad Weather Days in Month Based on High Temperature |
| January | 7 | 3 | 0 |
| February | 6 | 1 | 0 |
| March | 7 | 0 | 0 |
| April | 6 | 0 | 0 |
| May | 7 | 0 | 0 |
| June | 7 | 0 | 0 |
| July | 7 | 0 | 1 |
| August | 7 | 0 | 1 |
| September | 5 | 0 | 0 |
| October | 5 | 0 | 0 |
| November | 5 | 0 | 0 |
| December | 6 | 1 | 0 |
| Note: 2" of sleet equals 1" of rain, 5" of wet, heavy snow equals 1" of rain, 15" of "dry" powder snow equals 1" of rain. | | | |

END OF EXHIBIT A

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01 11 00 SUMMARY OF WORK

1.00 GENERAL

1.01 WORK INCLUDED

- A. Construct Work as described in the Contract Documents.
 - 1. Provide the materials, equipment, and incidentals required to make the Project completely and fully operable.
 - 2. Provide the labor, equipment, tools, and consumable supplies required for a complete Project.
 - 3. Provide the civil, architectural, structural, mechanical, electrical, instrumentation and all other Work required for a complete and operable Project.
 - 4. Test and place the completed Project in operation.
 - 5. Provide the special tools, spare parts, lubricants, supplies, or other materials as indicated in Contract Documents for the operation and maintenance of the Project.
 - 6. The Contract Documents do not indicate or describe all of the Work required to complete the Project. Additional details required for the correct installation of selected products are to be provided by the Contractor and coordinated with the Engineer.

1.02 JOB CONDITIONS

- A. The General Conditions, the Supplementary Conditions, and General Requirements apply to each Section of the Specifications.
- B. Comply with all applicable state and local codes and regulations pertaining to the nature and character of the Work being performed.

1.03 DESCRIPTION OF WORK

- A. Work is described in general, non-inclusive terms as:
 - 1. Work Under Base Bid
 - a. The project is for variable depth milling of approximately 1,750 linear feet of Duggan Hill Drive beginning at Rickman Street and proceeding south. Areas with extreme pavement distress or failure will be replaced with deep patching, these areas will be identified and marked at the pre-construction meeting. A leveling course of minimum ½-inch shall be installed to establish a normal cross slope (3/16 inch per foot minimum to ½ inch per foot maximum). Tack coat shall be placed prior to leveling course and final riding surface at a rate of 0.07 gallons per square yard. Final riding surface shall be recycled asphalt concrete 9.5mm superpave, group 1 or 2, including bituminous material and hydrated lime to be placed at the rate of 135 pounds per square yard.
 - 2. Work Under Alternative Bid
 - 1). None.

1.04 WORK UNDER OTHER CONTRACTS

- A. None.

1.05 WORK BY OWNER

- A. The Owner does not plan to perform any of the items of work which are included in this contract.
- B. Owner will provide normal operation and maintenance of the existing facilities during construction, unless otherwise stated.

1.06 OWNER-SELECTED PRODUCTS

- A. The Owner has not pre-selected any products for this project.

1.07 OCCUPANCY

- A. Testing of equipment and appurtenances including specified test periods, training, and startup does not constitute acceptance for operation.
- B. The execution of bonds is understood to indicate the consent of the surety to these provisions.
- C. Conduct operations to insure the least inconvenience to the Owner and general public.

1.08 CONTRACTOR'S USE OF PROJECT SITE

- A. Limit the use of project site for work and storage to the areas at the site designated on the drawings and approved by the Owner.
- B. Coordinate the use of the premises with the Owner/Engineer.
- C. Assume full responsibility for the protection and safekeeping of products stored at the site.
- D. Store products to allow owner access for maintenance and operations.
- E. Obtain and pay for the use of any additional storage or work areas needed for construction.
- F. Any damage to existing facilities, including contamination, caused by the Contractor's personnel, visitors, materials, or equipment, shall be repaired or corrected at the Contractor's expense.
- G. No alcoholic beverages or illegal substances shall be permitted on the site at any time.
- H. No concealed or illegal weapons shall be permitted on the site at any time.

2.00 PRODUCTS

2.01 MATERIALS

- A. Provide materials and products per the recommendation and approval of the Engineer.

3.00 EXECUTION

- A. Perform all work in strict compliance with the Contract Documents.

END OF SECTION

01 23 10 ALTERNATES AND ALLOWANCES

1.00 GENERAL

1.01 REQUIREMENTS

A. Allowances:

1. Include specified allowance amount in Contract Price.
2. Include in the Contract Price all costs for:
 - a. Cost for labor and equipment for testing.
 - b. All overhead, profit, and related costs.
3. Submit a Contract Modification Request per Section 01 31 00 "Project Management and Coordination" to adjust Contract Price if the net cost of the product is more or less than the specified amount.
 - a. For products specified as Unit Price Work, the unit cost shall apply to the quantities installed per the method of payment described in Section 01 29 00 "Payment Procedures."
 - b. Do not perform Work until selection of alternate has been approved in writing by the Owner.
 - c. Provide actual invoices for the materials.

1.02 SUBMITTALS

- ##### **A. Provide submittals for products furnished as part of alternates and allowances in accordance with Section 01 33 00 "Submittal Procedures."**

1.03 DESCRIPTION OF ALLOWANCES

1. NONE

1.04 GUARANTEES

- ##### **A. Provide guarantees for products furnished under alternate bids / proposals or purchased by allowances as required by the Contract Documents.**

END OF SECTION

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01 29 00 PAYMENT PROCEDURES

1.00 GENERAL

1.01 WORK INCLUDED

- A. Payments for Work shall conform to the provisions of the General Conditions, the Supplementary Conditions, the Agreement, and this Section. Apply provisions for payments in the Section to all Subcontractors and Suppliers.
- B. Submit Applications for Payment at the amounts indicated in the Agreement:
 - 1. Amounts for each item in the Agreement shall include but not be limited to cost for:
 - a. Mobilization, demobilization, cleanup, bonds, and insurance.
 - b. Professional services including but not limited to engineering and legal fees.
 - c. The products to be permanently incorporated into the Project.
 - d. The products consumed during the construction of the Project.
 - e. The labor and supervision to complete the Project.
 - f. The equipment, including tools, machinery, and appliances required to complete the Project.
 - g. The field and home office administration and overhead costs related directly or indirectly to the Project.
 - h. Any and all kinds, amount or class of excavation, backfilling, pumping or drainage, sheeting, shoring and bracing, disposal of any and all surplus materials, permanent protection of all overhead, surface or underground structures; removal and replacement of any poles, conduits, pipelines, fences, appurtenances and connections, cleaning up, overhead expense, bond, public liability and compensation and property damage insurance, patent fees, and royalties, risk due to the elements, and profits, unless otherwise specified.
 - 2. Provide Work not specifically set forth as an individual payment item but required to provide a complete and functional system. -These items are a subsidiary obligation of the Contractor and are to be included in the Cost of Work.
 - 3. Payment will be made for materials on hand.
 - a. Store materials properly on Site as herein specified.
 - 1). Payment will be made for the invoice amount less the specified retainage.
 - 2). Provide invoices at the time materials are included on the materials-on-hand tabulation.
 - b. Provide documentation of payment for materials-on-hand with the next payment request. Adjust payment to the amount actually paid if this differs from the invoice amount. Remove items from the materials on hand tabulation if this documentation is not provided so payment will not be made.

- c. Payment for materials-on-hand is provided for the convenience of the Contractor and does not constitute acceptance of the product.
- 4. The Work covered by progress payments becomes the property of the Owner at the time of payment.

1.02 SCHEDULE OF VALUES AND PAYMENTS

- A. Submit a detailed Schedule of Values for the Work to be performed on the project.
 - 1. Submit schedule within 10 days prior to submitting the first Application for Payment.
 - 2. Line items in the Agreement are to be used as line items in the schedule.
 - 3. Payment will be made on the quantity of Work completed per Contract Documents during the payment period and as measured per this Section.
 - a. For unit price work, payment amount is the Work quantity measured multiplied by the unit prices for that line item.
 - b. Payment on a unit price basis will not be made for Work outside finished dimensions shown in the Contract Documents.
 - c. Partial payments will be made for lump sum line items.
 - 1). Lump sum line items in the Agreement are to be divided into smaller unit prices to allow more accurate determination of the percentage of the item that has been completed.
 - a). Provide adequate detail to allow more accurate determination of the percentage of Work completed for each item.
 - b). Provide amounts for items that do not exceed \$50,000.00. An exception may be made for equipment packages that cannot be subdivided into units or subassemblies.
 - c). Separate product costs and installation costs.
 - (1). Product costs include cost for product, delivery and unloading costs, royalties and patent fees, taxes, and other cost paid directly to the Subcontractor or Supplier.
 - (2). Installation costs include cost for the supervision, labor and equipment for field fabrication, erection, installation, start-up, initial operation and overhead and profit.
 - d). Lump sum items may be divided into an estimated number of units.
 - (1). The estimated number of units times the cost per unit must equal the lump sum amount for that line item.
 - (2). Payment will be made for all of the lump sum line item amount.
 - e). Include a directly proportional amount of overhead and profit for each line item.
 - f). Divide principal subcontract amounts into an adequate number of line items to allow determination of the percentage of Work completed for each item.

- 2). These line items may be used to establish the value of Work to be added or deleted from the Project.
 - 3). Correlate line items with other administrative schedules and forms:
 - a). Progress schedule.
 - b). List of Subcontractors.
 - c). Schedule of allowances.
 - d). Schedule of alternatives.
 - e). List of products and principal Suppliers.
 - f). Schedule of Submittals.
 - 4). Costs for mobilization/demobilization are to be listed as a separate line item and includes the actual cost for:
 - a). Bonds and insurance.
 - b). Transportation and setup for equipment.
 - c). Transportation and/or erection of all field offices, sheds and storage facilities.
 - d). Salaries for preparation of submittals required before the first Application for Payment.
 - e). Salaries for field personnel assigned to the Project related to the mobilization/demobilization of the Project.
 - f). Transportation, breakdown/loading, and removal of equipment.
 - g). Transportation and/or disassembly of all temporary facilities erected for construction.
 - (1). Mobilization/demobilization may not exceed 3 percent of the total Contract amount. Cost for mobilization and demobilization may be submitted only for Work completed.
 - 5). The sum of all values listed in the schedule must equal the total Contract amount.
4. Submit a schedule indicating the anticipated schedule of payments to be made by the Owner. Schedule shall indicate:
 - a. The Application for Payment number.
 - b. Date the request is to be submitted.
 - c. Anticipated amount of payment to be requested.
 5. Update the Schedule of Values quarterly or more often if necessary to provide a reasonably accurate indication of the funds that the Owner will need to have available to make payment to the Contractor for the Work performed.
- B. Provide written approval of the Schedule of Values, Application for Payment form, and method of payment by the Surety Company providing performance, and bonds prior to

submitting the first Application for Payment. Payment will not be made without this approval.

1.03 PAYMENT PROCEDURES

- A. Submit Applications for Payment per the procedures indicated in Section 01 33 00 "Submittal Procedures." Submit a Schedule of Values in the Application for Payment format to be used.
- B. Applications for Payment may be submitted on a pre-printed form acceptable to the Owner and Engineer, or may be generated electronically. Computer generated payment requests must have the same format and information indicated in the pre-printed form and be approved by the Engineer.
 - 1. Indicate the total contract amount and the Work completed to date on the Tabulation of Values for Original Contract Performed.
 - 2. Include only approved Change Order items in the Tabulation of Extra Work on Approved Change Orders.
 - 3. List all materials on hand that are presented for payment on the Tabulation of Materials on Hand. Once an item has been entered on the tabulation it is not to be removed.
 - 4. Include the Project Summary Report with each Application for Payment. Data included in the Project Summary Report are to be taken from the other tabulations. Include a completed summary as indicated in with each Applications for Payment submitted.
 - a. Number each application sequentially and indicate the payment period. Revised Applications for Payment will be resubmitted as A, B, C and so forth to note changes in content.
 - b. Show the total amounts for value of original Contract performed, extra Work on approved Change Orders, and materials on hand on the Project Summary Report. Show total amounts that correspond to totals indicated on the attached tabulation for each.
 - c. Note the number of pages in tabulations in the blank space on the Project Summary Report to allow a determination that all sheets have been submitted.
 - d. Execute Contractor's certification by the Contractor's agent of authority and notarize for each Application for Payment.
 - 5. Do not alter the schedule of values and the form for the submission of requests without the written approval of the Engineer once these have been approved by the Engineer.
 - 6. Final payment requires additional procedures and documentation per Section 01 70 00 "Execution and Closeout Requirements."
- C. Progress payments shall be made as the Work progresses on a monthly basis.
 - 1. End the payment period on the day indicated in the Agreement and submit an Application for Payment for Work completed and materials received since the end of the last payment period.
 - 2. At the end of the payment period, submit a draft copy of the Application for Payment for that month to the Engineer. Agreement is to be reached on:

- a. The percentage of Work completed for each lump sum item.
- b. The quantity of Work completed for each unit price item.
- c. The percentage of Work completed for each approved Change Order item.
- d. The amount of materials-on-hand.
- 3. On the basis of these agreements the Contractor is to prepare a final copy of the Application for Payment and submit it to the Engineer for approval.
- 4. The Engineer will review the Application for Payment and if appropriate will recommend payment of the application to the Owner.
- D. Provide a revised and up-to-date Progress Schedule per Section 01 32 16 "Construction Progress Schedules" with each Application for Payment.

1.04 ALTERNATES AND ALLOWANCES

- A. Include amounts for specified Alternate Work, if any, in the Agreement in accordance with Section 01 23 10 "Alternates and Allowances."
- B. Include amounts for specified Allowances for Work, if any, in the Agreement in accordance with Section 01 23 10 "Alternates and Allowances."

1.05 MEASUREMENT PROCEDURES

- A. Measure the Work described in the Agreement for payment, if applicable. Payment will be made only for the actual measured and/or computed length, area, solid contents, number and weight, unless otherwise specifically provided. No extra or customary measurements of any kind will be allowed.

1.06 BID ITEMS

- A. Lump Sum Items
 - 1. Item No. 1: Base Bid – Payment shall be made at the lump sum bid price and shall include all supervision, labor, materials, equipment, tools, incidentals and related items required for the culvert replacement as shown in the plans and included in the specifications unless a separate bid item is included.
- B. Allowances
 - 1. None.
- C. Alternate Bid Items
 - a. None.

2.00 PRODUCTS (NOT APPLICABLE)

3.00 EXECUTION (NOT APPLICABLE)

END OF SECTION

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01 31 00 PROJECT MANAGEMENT AND COORDINATION

1.00 GENERAL

1.01 WORK INCLUDED

- A. Furnish equipment, manpower, products, and other items necessary to complete the Project with an acceptable standard of quality and within the Contract time. Construct Project in accordance with current safety practices.
- B. Manage Site to allow access to Site and control construction operations.
- C. Provide labor, materials, equipment and incidentals necessary to construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed.
- D. Construct temporary impounding works, channels, diversions, furnishing and operation of pumps, installing piping and fittings, and other construction for control of conditions at the Site. Remove temporary controls at the end of the Project.
- E. Cost for Project Management and Coordination as described in this section are to be included in the Contract Price.

1.02 QUALITY ASSURANCE

- A. Employ competent workmen, skilled in the occupation for which they are employed. Provide Work meeting quality requirements of the Contract Documents as determined by the Engineer and Owner.
- B. Remove defective Work from the Site immediately unless provisions have been made and approved by the Engineer to allow repair of the product at the Site. Clearly mark the Work as "defective" until it is removed or allowable repairs have been completed.

1.03 SUBMITTALS

- A. Provide submittals in accordance with Section 01 33 00 "Submittal Procedures."
 - 1. Provide copies of Supplier's printed storage instructions prior to furnishing materials or products and installation instructions prior to beginning the installation. Maintain one copy of these documents at the Site until the Project is complete. Incorporate this information into submittals.
 - 2. Incorporate field notes, sketches, recordings, and computations made by the Contractor in Record Drawings.

1.04 STANDARDS

- A. Perform Work to comply with local, State and Federal ordinances and regulations.

1.05 COMMUNICATION DURING THE PROJECT

- A. The Engineer or other designated Owner's representative is to be the first point of contact for all parties on matters concerning this project.

- B. Contractor shall coordinate correspondence with the Engineer concerning:
 - 1. Submittals, including Applications for Payment.
 - 2. Clarification and interpretation of the Contract Documents.
 - 3. Contract modifications.
 - 4. Observation of Work and testing.
 - 5. Claims.
- C. The Engineer will normally communicate only with the Contractor. Any required communication with Subcontractors or Suppliers will only be with the direct involvement of the Contractor.
- D. Direct written communications to the Engineer at the address indicated at the Pre-construction Conference. Include the following with communications as a minimum:
 - 1. Name of the Owner.
 - 2. Project name.
 - 3. Contract title.
 - 4. Project number.
 - 5. Date.
 - 6. A reference statement.
- E. Submit communications on the forms referenced in this Section or in Section 01 33 00 "Submittal Procedures."

1.06 PROJECT MEETINGS

- A. Pre-construction Conference:
 - 1. Attend a pre-construction conference.
 - 2. The location of the conference will be determined by the Engineer.
 - 3. The time of the meeting will be determined by the Engineer but will be after the Notice of Award is issued and not later than 15 days after the Notice to Proceed is issued, unless agreed upon by the Contractor and the Engineer.
 - 4. The Owner, Engineer, Contractor's project manager and superintendent, representatives of utility companies, and representatives from major Subcontractors and Suppliers may attend the conference.
 - 5. Provide and be prepared to discuss:
 - a. Preliminary submittal schedule per Section 01 33 00 "Submittal Procedures."
 - b. Schedule of values and anticipated schedule of payments per Section 01 29 00 "Payment Procedures."
 - c. List of Subcontractors and Suppliers.
 - d. Contractor's organizational chart as it relates to this Project.

- e. Letter indicating the agents of authority for the Contractor and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests.
- B. Progress Meetings:
- 1. Attend meetings with the Engineer and Owner.
 - a. Meet on a monthly basis or as requested by the Engineer to discuss the Project.
 - b. Meet at the Site or other location as designated by the Engineer.
 - c. Contractor's superintendent and other key personnel are to attend the meeting. Other individuals may be requested to attend to discuss specific matters.
 - d. Notify the Engineer of any specific items to be discussed a minimum of 1 week prior to the meeting.
 - 2. Provide information as requested by the Engineer or Owner concerning this Project. Prepare to discuss:
 - a. Status of overall project schedule.
 - b. Contractor's detailed schedule for the next month.
 - c. Anticipated delivery dates for equipment.
 - d. Coordination with the Owner.
 - e. Status of submittals.
 - f. Information or clarification of the Contract Documents.
 - g. Claims and proposed modifications to the Contract.
 - h. Field observations, problems, or conflicts.
 - i. Maintenance of quality standards.
 - 3. Engineer will prepare minutes of meetings. Review the minutes of the meeting and notify the Engineer of any discrepancies within ten days of the date of the meeting memorandum. The minutes will not be corrected after the ten days have expired. Corrections will be reflected in the minutes of the following meeting or as an attachment to the minutes.

1.07 REQUESTS FOR INFORMATION

- A. Submit Request for Information (RFI) to the Engineer to obtain additional information or clarification of the Contract Documents.
- 1. Submit a separate RFI for each item on the form provided or approved by the Engineer.
 - 2. Attach adequate information to permit a written response without further clarification. Engineer will return requests that do not have adequate information to the Contractor for additional information. Contractor is responsible for all delays resulting from multiple submittals due to inadequate information.
 - 3. A response will be made when adequate information is provided. Response will be made on the RFI form or in attached information.

- B. Response to an RFI is given to provide additional information, interpretation, or clarification of the requirements of the Contract Documents, and does not modify the Contract Documents.
- C. Engineer will initiate a Contract Modification Request per Paragraph 1.09 if the RFI indicates that a contract modification is required.

1.08 NOTIFICATION BY CONTRACTOR

- A. Notify the Owner / Engineer of:
 - 1. Need for testing.
 - 2. Intent to work outside regular working hours.
 - 3. Request to shut down facilities or utilities.
 - 4. Proposed utility connections.
 - 5. Required observation by Engineer or inspection agencies prior to covering Work.
 - 6. Training.
- B. Provide notification a minimum of 2 weeks in advance in order to allow Owner and Engineer time to respond appropriately to the notification.
- C. Use "Notification by Contractor" form provided by or approved by the Engineer.

1.09 REQUESTS FOR MODIFICATIONS

- A. Submit a request to the Engineer for any change in the Contract Documents.
 - 1. Use the "Contract Modification Request" (CMR) form provided by the Engineer or other form approved by the Engineer.
 - 2. Assign a number to the Contract Modification Request when issued.
 - 3. Include with the Contract Modification Request:
 - a. A complete description of the proposed modification.
 - b. The reason the modification is requested.
 - c. A detailed breakdown of the cost of the change (necessary only if the modification requires a change in contract amount). The itemized breakdown is to include:
 - 1). List of materials and equipment to be installed.
 - 2). Man hours for labor by classification.
 - 3). Equipment used in construction.
 - 4). Consumable supplies, fuels, and materials.
 - 5). Royalties and patent fees.
 - 6). Bonds and insurance.
 - 7). Overhead and profit.
 - 8). Field office costs.

- 9). Home office cost.
- 10). Other items of cost.
- d. Provide the level of detail outline in the paragraph above for each Subcontractor or Supplier actually performing the Work if Work is to be provided by a Subcontractor or Supplier. Indicate appropriate Contractor mark-ups for Work provided through Subcontractors and Suppliers. Provide the level of detail outline in the paragraph above for self-performed Work.
- e. Provide a revised schedule indicating the effect on the critical path for the Project and a statement of the number of days the Project may be delayed by the modification.
- 4. Submit a Contract Modification Request to the Engineer to request a field change.
- 5. A Contract Modification Request is required for all substitutions or deviations from the Contract Documents.
- 6. Engineer will evaluate the request for a contract modification.
- B. Owner will initiate changes through the Engineer.
 - 1. Engineer will prepare a description of proposed modifications to the Contract Documents.
 - 2. Engineer will use the Contract Modification Request form. Engineer will assign a number to the Contract Modification Request when issued.
 - 3. Return the Contract Modification Request with a proposal to incorporate the requested change. Include a breakdown of costs into materials and labor in detail outline above to allow evaluation by the Engineer.
- C. Engineer will issue a Field Order or a Change Order per the General Conditions if a contract modification is appropriate.
 - 1. Modifications to the contract can only be made by a Field Order or a Change Order.
 - 2. Changes in the Project will be documented by a Field Order or by a Change Order.
 - 3. Field Orders may be issued by the Engineer for contract modifications that do not change the Contract Price or Contract Time.
 - 4. Any modifications that require a change in Contract Price or Contract Time can only be approved by Change Order.
 - a. Proposals issued by the Contractor in response to a Contract Modification Request will be evaluated by the Engineer.
 - b. If a Change Order is recommended, the Engineer will prepare the Change Order.
 - c. The Change Order will be sent to the Contractor for execution with a copy to the Owner recommending approval.
 - d. Change Orders can only be approved by the Owner.
 - 1). Work performed on the proposed contract modifications prior to the approval of the Change Order will be performed at the Contractor's risk.

- 2). No payment will be made for Work on Change Orders until approved by the Owner.
- D. The Contractor may be informed that the Contract Modification Request is not approved and construction is to proceed in accordance with the Contract Documents.

1.10 RECORD DRAWINGS

- A. Maintain at the site one complete record copy of:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Contract modifications.
 5. Approved Shop Drawings and record data.
 6. Test records.
 7. Clarifications and other information provided in Request for Information responses.
 8. Reference standards.
- B. Store documents and Samples in the Contractor's field office.
 1. Documents are to remain separate from documents used for construction. Do not use these documents for construction.
 2. Provide files and racks for the storage of documents.
 3. Provide a secure storage space for the storage of Samples.
 4. Maintain documents in clean, dry, legible conditions, and in good order.
 5. Make documents and Samples available at all times for inspection by the Engineer and Owner.
- C. Marking Drawings:
 1. Label each document as "Project Record" in large printed letters.
 2. Record information as construction is being performed.
 - a. Do not conceal any Work until the required information is recorded.
 - b. Mark Drawings to record actual construction, including the following:
 - 1). Depths of various elements of the foundation in relation to finished first floor datum or the top of walls.
 - 2). Horizontal and vertical locations of underground utilities and appurtenances constructed and existing utilities encountered during construction.
 - 3). Location of internal utilities and appurtenances concealed in the construction. Refer measurements to permanent structure on the surface. Include the following equipment:
 - a). Piping.

- b). Equipment and control devices requiring periodic maintenance or repair.
 - c). Valves, unions, traps, and tanks.
- 4). Changes of dimension and detail.
- 5). Changes made by Field Order and Change Order.
- 6). Details not on the original Drawings. Include field verified dimensions and clarifications, interpretations, and additional information issued in response to RFIs.
- c. Mark Specifications and Addenda to identify products provided.
 - 1). Record product name, trade name, catalog number, and each Supplier (with address and phone number) of each product and item of equipment actually installed.
 - 2). Record changes made by Field Order and Change Order.
- d. Mark additional Work or information in erasable pencil.
 - 1). Use red for new or revised indication.
 - 2). Use purple for Work deleted or not installed (lines to be removed).
 - 3). Highlight items constructed per the Contract Documents in yellow.
- e. Submit record documents to Engineer for review and acceptance 30 days prior to final completion of the Project.
 - 1). Provide one set of marked up Drawings.
- D. Applications for Payment will not be recommended for payment if record documents are found to be incomplete or not in order. Final payment will not be recommended without complete record documents.

1.11 PERMITS

- A. Obtain and pay for applicable building permits for the Project from the local authorities having jurisdiction. Building permit fees will be waived for those permits in the Owner's jurisdiction.
- B. Retain copies of permits and licenses at the Site and observe and comply with all regulations and conditions of the permit or license, including additional insurance requirements.
- C. Obtain and pay for all other necessary permits including any and all necessary highway, street and road permits for transporting pipe and/or heavy equipment necessary for construction of the Project.
- D. Obtain and pay for other permits necessary to conduct any part of the Work.
- E. Arrange for inspections and certification by agencies having jurisdiction over the Work.
- F. Make arrangements with private utility companies and pay for fees associated with obtaining services, or for inspection fees.

1.12 SAFETY REQUIREMENTS

- A. Assume sole responsibility for safety at the Site. Protect the safety and welfare of persons at the Site.
- B. Provide safe access to move through the Site. Provide and maintain barricades, guard rails, covered walkways, and other protective devices to warn and protect from hazards at the Site.
- C. Comply with latest provisions of the Occupational Health and Safety Administration and other regulatory agencies in performing Work.
- D. Cooperate with accident investigations related to the Site. Provide two copies of all reports, including insurance company reports, if requested by the Owner, prepared concerning accidents, injury, or death on the Site to the Engineer as Record Data per Section 01 33 00 "Submittal Procedures."

1.13 COORDINATION

- A. Coordinate the Work of various trades having interdependent responsibilities for installing, connecting to, and placing equipment in service.
- B. Coordinate requests for substitutions to provide compatibility of space, operating elements, effect on the Work of other trades, and on the Work scheduled for early completion.
- C. Schedule construction activities in sequence required to obtain best results where installation of one part of the Work is dependent on installation of other components, either before or after its own installation.

1.14 CONTRACTOR'S USE OF SITE

- A. Limit the use of Site for Work and storage to those areas designated on the Drawings or approved by the Owner and Engineer. Coordinate the use of the premises with the Owner and Engineer.
- B. Repair or correct any damage to existing facilities, including contamination, caused by the Contractor's personnel, visitors, materials, or equipment.
- C. Do not permit alcoholic beverages or illegal substances on the Site. Do not allow persons under the influence of alcoholic beverages or illegal substances to enter or remain on the Site at any time. Persons on Site under the influence of alcoholic beverages or illegal substances will be permanently prohibited from returning to the Site. Criminal or civil penalties may also apply.
- D. Park construction equipment in designated areas only and provide spill control measures as applicable.
- E. Park employees' vehicles in designated areas only.
- F. Obtain written permission of the Owner before entering privately-owned land outside of the Owner's property, rights-of-way, or easements.
- G. Do not allow the use of excessively loud audio devices, obnoxious, vulgar or abusive language, or sexual harassment in any form. These actions will cause immediate and

permanent removal of the offender from the premises. Criminal or civil penalties may apply.

- H. Require Workers to wear clothing that is inoffensive and meets safety requirements. Do not allow sleeveless shirts, shorts, exceedingly torn, ripped or soiled clothing to be worn on the project.
- I. Do not allow firearms or weapons of any sort to be brought on to the Site under any conditions. No exception is to be made for persons with concealed handgun permits. Remove any firearms or weapons and the person possessing these firearms or weapons permanently and immediately from the Site.

1.15 ACCESS TO THE SITE

- A. Maintain access to the facilities at all times. Do not obstruct roads, pedestrian walks, or access to the various buildings, structures, stairways, or entrances. Provide safe temporary walks or other structures to allow access for normal operations during construction.
- B. Provide adequate and safe access for inspections. Leave ladders, bridges, scaffolding and protective equipment in place until inspections have been completed. Construct additional safe access if required for inspections.
- C. Provide security at the Site as necessary to protect against vandalism and loss by theft.
- D. Use State, County, or City roadways for construction traffic only with written approval of the appropriate representatives of each entity. State, County, or City roadways may not all be approved for construction traffic. Obtain written approval to use State, County, City or private roads to deliver pipe and/or heavy equipment to the Site. Copies of the written approvals must be furnished to the Owner as Record Data before Work begins. No additional compensation will be paid because the Contractor is unable to gain access to the easement from public roadways.

1.16 PROPERTY PROVISIONS

- A. Make adequate provisions to maintain the flow of storm sewers, sanitary sewers, drains and water courses encountered during the construction. Provide temporary service around the construction or otherwise construct the structure in a manner that the flow is not curtailed. Restore structures which may have been disturbed during construction to their original position as soon as construction in the area is completed.
- B. Protect trees, fences, signs, poles, guy wires, and all other property unless their removal is authorized. Restore any property damaged to equal or better condition.

1.17 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Examine the Site and review the available information concerning the Site. Locate utilities, streets, driveways, fences, drainage structures, sidewalks, curbs, and gutters. Verify the elevations of the structures adjacent to excavations. Report these to the Engineer before beginning construction.
- B. Determine if existing structures, poles, piping, or other utilities at excavations will require relocation or replacement. Coordinate Work with Contractor, local utility company and

others. Include cost of demolition and replacement, restoration or relocation of these structures in the Cost of Work.

- C. Protect buildings, utilities, street surfaces, driveways, sidewalks, curb and gutter, fences, wells, drainage structures, piping, valves, manholes, electrical conduits, and other systems or structures unless they are shown to be replaced or relocated on the Drawings. Restore damage to items to be protected to the satisfaction of the Engineer, utility owner and Owner without additional compensation from the Owner.
- D. Carefully support and protect all structures and/or utilities so that there will be no failure or settlement where excavation or demolition endangers adjacent structures and utilities. Do not take existing utilities out of service unless shown in the Contract Documents or approved by the Engineer. Notify and cooperate with the utility owner if it is necessary to move services, poles, guy wires, pipelines or other obstructions. Include the cost of relocation and permits required to move existing utilities in the Cost of Work.
- E. Protect existing trees and landscaping at the site.
 - 1. Visit the Site with Engineer to identify trees that may be removed during construction.
 - 2. Mark trees to be removed with paint.
 - 3. Protect trees to remain from damage by wrapping trunks with 2 x 4 timbers around the perimeter, securely wired in place, where machinery must operate around existing trees. Protect branches and limbs from damage by equipment.
- F. Protect buildings from damage when handling material or equipment. Protect finished surfaces, including floors, doors, and jambs. Remove doors and install temporary wood protective coverings over jambs.

1.18 DISRUPTION TO SERVICES / CONTINUED OPERATIONS

- A. Existing facilities are to continue in service by the Owner as usual during the construction unless noted otherwise. Owner or utilities must be able to operate and maintain the facilities. Disruptions to existing utilities, piping, process piping, or electrical services shall be kept to a minimum.
 - 1. Do not restrict access to critical valves, operators, or electrical panels.
 - 2. Do not store material or products inside structures.
 - 3. Limit operations to the minimum amount of space needed to complete the specified Work.
 - 4. Maintain water mains in service at all times. Provide temporary service around the construction or otherwise construct the structure in a manner that the flow is not restricted.

1.19 FIELD MEASUREMENTS

- A. Perform complete field measurements for products required to fit existing conditions prior to purchasing products or beginning construction.
- B. Verify property lines, control lines, grades, and levels indicated on the Drawings.

- C. Verify pipe class, equipment capacities, existing electrical systems and power sources for existing conditions.
- D. Check Shop Drawings and indicate the actual dimensions available where products are to be installed.
- E. Include field measurements in Record Drawings as required in Section 01 31 00 "Project Management and Coordination."

1.20 REFERENCE DATA AND CONTROL POINTS

- A. The Engineer will provide the following control points:
 - 1. Base line or grid reference points for horizontal control.
 - 2. Benchmarks for vertical control.
 - 3. Designated control points may be on an existing structure or monument.
- B. Locate and protect control points prior to starting the Work and preserve permanent reference points during construction. Do not change or relocate points without prior approval of the Engineer. Notify Engineer when the reference point is lost, destroyed, or requires relocation. Replace Project control points on the basis of the original survey.
- C. Provide complete engineering layout of the Work needed for construction.
 - 1. Provide competent personnel. Provide equipment including accurate surveying instruments, stakes, platforms, tools, and materials.
 - 2. Record data and measurements per standards.

1.21 DELIVERY AND STORAGE

- A. Deliver products and materials to the Site in time to prevent delays in construction.
- B. Deliver packaged products to Site in original undamaged containers with identifying labels attached. Open cartons as necessary to check for damage and to verify invoices. Reseal cartons and store properly until used. Leave products in packages or other containers until installed.
- C. Assume full responsibility for the protection and safekeeping of products stored at the Site.
- D. Store products at locations acceptable to the Engineer and to allow Owner access to maintain and operate existing facilities.
- E. Store products in accordance with the Supplier's storage instructions immediately upon delivery. Leave seals and labels intact. Arrange storage to allow access for maintenance of stored items and for inspection. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.
- F. Obtain and pay for the use of any additional storage areas as needed for construction. Store products subject to damage by elements in substantial weather-tight enclosures or storage sheds. Provide and maintain storage sheds as required for the protection of products. Provide temperature, humidity control and ventilation within the ranges stated in the Supplier's instructions. Remove storage facilities at the completion of the Project.

- G. Protect the pipe interior. Keep all foreign materials such as dirt, debris, animals, or other objects out of the pipe during the Work. Cap or plug ends of installed pipe in an approved manner when pipe is not being installed. Clean or wash out pipe sections that become contaminated before continuing with installation. Take precautions to prevent the pipe from floating or moving out of the proper position during or after laying operations. Immediately correct any pipe that moves from its correct position.
- H. Provide adequate exterior storage for products that may be stored out-of-doors.
 - 1. Provide substantial platforms, blocking, or skids to support materials and products above ground; slope to provide drainage. Protect products from soiling or staining.
 - 2. Cover products subject to dislocation or deterioration from exposure to the elements, with impervious sheet materials. Provide ventilation to prevent condensation below covering.
 - 3. Store loose, granular materials on clean, solid surfaces, or on rigid sheet materials, to prevent mixing with foreign matter.
 - 4. Provide surface drainage to prevent erosion and ponding of water.
 - 5. Prevent mixing of refuse or chemically injurious materials or liquids with stored materials.
 - 6. Pipes and conduits stored outdoors are to have open ends sealed to prevent the entrance of dirt, moisture, and other injurious materials. Protect PVC pipe from ultraviolet light exposure.
 - 7. Store light weight products to prevent wind damage.
- I. Maintain storage facilities. Inspect stored products on a weekly basis and after periods of severe weather to verify that:
 - 1. Storage facilities continue to meet specified requirements.
 - 2. Supplier's required environmental conditions are continually maintained.
 - 3. Surfaces of products exposed to the elements are not adversely affected.
- J. Replace any stored item damaged by inadequate protection or environmental controls.
- K. Payment may be withheld for any products not properly stored.

1.22 CLEANING DURING CONSTRUCTION

- A. Provide positive methods to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from disbursing into the atmosphere. Control dust and dirt from demolition, cutting, and patching operations.
- B. Clean the Project as Work progresses and dispose of waste materials, keeping the Site free from accumulations of waste or rubbish. Provide containers on Site for waste collection. Do not allow waste materials or debris to blow around or off of the Site. Control dust from waste materials. Transport waste materials with as few handlings as possible.
- C. Comply with codes, ordinances, regulations, and anti-pollution laws. Do not burn or bury waste materials. Remove waste materials, rubbish and debris from the Site and legally dispose of these at public or private dumping areas.

1.23 MAINTENANCE OF ROADS, DRIVEWAYS, AND ACCESS

- A. Maintain roads and streets in a manner that is suitable for safe operations of public vehicles during all phases of construction unless the Owner approves a street closing. Submit a written request for Owner's approval of a street closing. The request shall state:
 - 1. The reason for closing the street.
 - 2. How long the street will remain closed.
 - 3. Procedures to be taken to maintain the flow of traffic.
 - 4. Do not close public roads overnight.
- B. Construct temporary detours, including by-pass roads around construction, with adequately clear width to maintain the free flow of traffic at all times. Maintain barricades, signs, and safety features around the detour and excavations.
- C. Maintain barricades, signs, and safety features around the Work in accordance with all provisions of the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- D. Clean mud, dirt and debris from traveled roadways on a daily basis.
- E. Assume responsibility for any damage resulting from construction along roads or drives.

1.24 CUTTING AND PATCHING

- A. Perform cutting, fitting, and patching required to complete the Work or to:
 - 1. Uncover Work to provide for installation of new Work or the correction of defective Work.
 - 2. Uncover Work that has been covered prior to observation by the Engineer.
- B. Submit written notification to the Engineer in advance of performing any cutting which affects:
 - 1. Work of any other Contractor or the Owner.
 - 2. Structural integrity of any structure or system of the project.
 - 3. Integrity or effectiveness of weather exposed or moisture resistant structure or systems.
 - 4. Efficiency, operational life, maintenance, or safety of any structure or system.
 - 5. Appearance of any structure or surfaces exposed occasionally or constantly to view.
- C. The notification shall include:
 - 1. Identification of the Project.
 - 2. Location and description of affected Work.
 - 3. Reason for cutting, alteration, or excavation.
 - 4. Effect on the Work of any separate contractor or Owner.
 - 5. Effect on the structural or weatherproof integrity of the project.
 - 6. Description of proposed Work, including:
 - a. Scope of cutting, patching, or alteration.

- b. Trades that will perform the Work.
 - c. Products proposed for use.
 - d. Extent of refinishing to be performed.
 - e. Cost proposal, when applicable.
- 7. Alternatives to cutting and patching.
- 8. Written authorization from any separate Contractor whose Work would be affected.
- 9. Date and time Work will be uncovered or altered.
- D. Examine the existing conditions, including structures subject to damage or to movement during cutting or patching.
 - 1. Inspect conditions affecting installation of products or performance of the Work after uncovering the Work.
 - 2. Provide a written report of unacceptable or questionable conditions to the Engineer. The Contractor shall not proceed with Work until Engineer has provided further instructions. Beginning Work will constitute acceptance of existing conditions by the Contractor.
- E. Protect the structure and other parts of the Work and provide adequate support to maintain the structural integrity of the affected portions of the Work. Provide devices and methods to protect adjacent Work and other portions of the Project from damage. Provide protection from the weather for portions of the Project that may be exposed by cutting and patching Work.
- F. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs.
- G. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes.
- H. Restore Work which has been cut or removed. Install new products to provide completed Work per the Contract Documents.
- I. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to the nearest intersection.
 - 2. For an assembly, refinish the entire unit.

1.25 PRELIMINARY OCCUPANCY

- A. Owner may deliver, install and connect equipment, furnishings, or other apparatus in buildings or other structures. These actions do not indicate acceptance of any part of the building or structure and does not affect the start of warranties or correction periods.
- B. Protect the Owner's property after installation is complete.
- C. Owner or Engineer may use any product for testing or determine that the product meets the requirements of the Contract Documents. This use does not constitute acceptance by either the Owner or Engineer. These actions do not indicate acceptance of any part of the product and does not affect the start of warranties or correction periods.

1.26 INITIAL MAINTENANCE AND OPERATION

- A. Maintain equipment until the Project is accepted by the Owner. Ensure that mechanical equipment is properly maintained as recommended by the Supplier.
- B. Provide documentation of maintenance and operations when Owner takes over operation and control of the Project.

2.00 PRODUCTS

- A. NOT USED

3.00 EXECUTION

3.01 PERFORMANCE OF WORK

- A. Perform the Work per the Supplier's published instructions. Do not omit any preparatory step or installation procedure unless specifically exempted or modified by Field Order.

END OF SECTION

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01 31 13.13 FORMS

1.00 GENERAL

1.01 PROJECT FORMS

- A. Use the forms provided by the Engineer for contract administration, applications for payment, submittals, documentation of test results, equipment installation and documentation, and project closeout.
- B. A digital copy of the required forms will be provided to the Contractor before or at the pre-construction conference.

END OF SECTION

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NOTICE OF AWARD

Date of Issuance:

Owner: City of Clayton, Georgia

Owner's Project No.:

Project:

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated _____, 2022 for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

Variable depth milling of approximately 1,750 liner feet of Duggan Hill Drive beginning at Rickman Street and proceeding south. Areas with extreme pavement distress or failure will be replaced with deep patching. A leveling course of minimum ½-inch shall be installed to establish a normal cross slope (3/16 inch per foot minimum to ½ inch per foot maximum). Tack coat shall be placed prior to leveling course and final riding surface at a rate of 0.07 gallons per square yard. Final riding surface shall be recycled asphalt concrete 9.5mm superpave, group 1 or 2, including bituminous material and hydrated lime to be placed at the rate of 135 pounds per square yard. Work shall include all materials, equipment, installation, testing, labor, and incidentals for all work for a complete working system as required by the Plans and Specifications.

The Contract Price of the awarded Contract is \$_____. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

Three [3] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner Three [3] counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): None

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: City of Clayton, Georgia

By (signature): _____

Name (printed): _____

Title: _____

NOTICE TO PROCEED

Owner: City of Clayton, Georgia Owner's Project No.: _____
Contractor: _____ Contractor's Project No.: _____
Project: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The date by which Substantial Completion must be achieved is _____, and the date by which readiness for final payment must be achieved is _____.

Before starting any Work at the Site, Contractor must comply with the following:

None

Owner: City of Clayton, Georgia
By *(signature)*: _____
Name *(printed)*: Jason Waldroup
Title: Public Works Director
Date Issued: _____

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

| | | | | | | | | |
|---|-------------|---|--|-------------------------|---|--|----------------------------------|--------------------------------|
| Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____ | | | | | | Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____ | | |
| Application No.: _____ | | Application Period: From _____ to _____ | | Application Date: _____ | | | | |
| A | B | C | D | E | F | G | H | I |
| Item No. | Description | Scheduled Value (\$) | Work Completed | | Materials Currently Stored (not in D or E) (\$) | Work Completed and Materials Stored to Date (D + E + F) (\$) | % of Scheduled Value (G / C) (%) | Balance to Finish (C - G) (\$) |
| | | | (D + E) From Previous Application (\$) | This Period (\$) | | | | |
| Original Contract | | | | | | | | |
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| Original Contract Totals | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - |

Progress Estimate - Lump Sum Work

Contractor's Application for Payment

| Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____ | | | | | | Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____ | | |
|---|-------------|---|--|-------------------------|---|--|----------------------------------|--------------------------------|
| Application No.: _____ | | Application Period: From _____ to _____ | | Application Date: _____ | | | | |
| A | B | C | D | E | F | G | H | I |
| Item No. | Description | Scheduled Value (\$) | Work Completed | | Materials Currently Stored (not in D or E) (\$) | Work Completed and Materials Stored to Date (D + E + F) (\$) | % of Scheduled Value (G / C) (%) | Balance to Finish (C - G) (\$) |
| | | | (D + E) From Previous Application (\$) | This Period (\$) | | | | |
| Change Orders | | | | | | | | |
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| | | | | | | - | | - |
| Change Order Totals | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - |
| Original Contract and Change Orders | | | | | | | | |
| Project Totals | | \$ - | \$ - | \$ - | \$ - | \$ - | | \$ - |

NOTICE OF ACCEPTABILITY OF WORK

Owner: City of Clayton, Georgia

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Notice Date:

Effective Date of the Construction Contract:

The Engineer hereby gives notice to the Owner and Contractor that Engineer recommends final payment to Contractor, and that the Work furnished and performed by Contractor under the Construction Contract is acceptable, expressly subject to the provisions of the Construction Contract's Contract Documents ("Contract Documents") and of the Agreement between Owner and Engineer for Professional Services dated _____ ("Owner-Engineer Agreement"). This Notice of Acceptability of Work (Notice) is made expressly subject to the following terms and conditions to which all who receive and rely on said Notice agree:

1. This Notice has been prepared with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.
2. This Notice reflects and is an expression of the Engineer's professional opinion.
3. This Notice has been prepared to the best of Engineer's knowledge, information, and belief as of the Notice Date.
4. This Notice is based entirely on and expressly limited by the scope of services Engineer has been employed by Owner to perform or furnish during construction of the Project (including observation of the Contractor's Work) under the Owner-Engineer Agreement, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under such Owner-Engineer Agreement.
5. This Notice is not a guarantee or warranty of Contractor's performance under the Construction Contract, an acceptance of Work that is not in accordance with the Contract Documents, including but not limited to defective Work discovered after final inspection, nor an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Contract Documents, or to otherwise comply with the Contract Documents or the terms of any special guarantees specified therein.
6. This Notice does not relieve Contractor of any surviving obligations under the Construction Contract, and is subject to Owner's reservations of rights with respect to completion and final payment.

Engineer

By (signature): _____

Name (printed): _____

Title: _____

WORK CHANGE DIRECTIVE NO.: _____

Owner: City of Clayton, Georgia

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Work Change Directive:

Contractor is directed to proceed promptly with the following change(s):

Description:

[Description of the change to the Work]

Attachments:

[List documents related to the change to the Work]

Purpose for the Work Change Directive:

[Describe the purpose for the change to the Work]

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

NOTES TO USER ~~check one or both of the following~~

☐ Non-agreement on pricing of proposed change. ☐ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: \$ _____ **[increase] [decrease] [not yet estimated].**

Contract Time: _____ days **[increase] [decrease] [not yet estimated].**

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Engineer

Authorized by Owner

By:

Title:

Date:

CHANGE ORDER NO.: [Number of Change Order]

Owner: City of Clayton, Georgia

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Change Order:

The Contract is modified as follows upon execution of this Change Order:

Description:

[Description of the change]

Attachments:

[List documents related to the change]

| Change in Contract Price | Change in Contract Times [State Contract Times as either a specific date or a number of days] |
|---|---|
| Original Contract Price: \$ _____ | Original Contract Times: Substantial Completion: _____ Ready for final payment: _____ |
| [Increase] [Decrease] from previously approved Change Orders No. 1 to No. [Number of previous Change Order] : \$ _____ | [Increase] [Decrease] from previously approved Change Orders No.1 to No. [Number of previous Change Order] : Substantial Completion: _____ Ready for final payment: _____ |
| Contract Price prior to this Change Order: \$ _____ | Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____ |
| [Increase] [Decrease] this Change Order: \$ _____ | [Increase] [Decrease] this Change Order: Substantial Completion: _____ Ready for final payment: _____ |
| Contract Price incorporating this Change Order: \$ _____ | Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____ |

Recommended by Engineer (if required)

Accepted by Contractor

By: _____

Title: _____

Date: _____

Authorized by Owner

Approved by Funding Agency (if applicable)

By: _____

Title: _____

Date: _____

FIELD ORDER NO.: [Number of Field Order]

Owner: City of Clayton, Georgia

Owner's Project No.:

Engineer:

Engineer's Project No.:

Contractor:

Contractor's Project No.:

Project:

Contract Name:

Date Issued:

Effective Date of Field Order:

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s):

Drawing(s) / Details (s):

Description:

[Description of the change to the Work]

Attachments:

[List documents supporting change]

Issued by Engineer

By: _____

Title: _____

Date: _____

01 32 34 PHOTOGRAPHIC DOCUMENTATION

1.00 GENERAL

1.01 WORK INCLUDED

- A. Provide a video recording of the Site prior to the beginning of construction.
 - 1. Record the condition of all existing facilities in or abutting the construction area (right-of-way) including but not limited to streets, curb and gutter, utilities, driveways, fencing, landscaping, etc.
 - 2. Record after construction staking is complete but prior to any clearing.
 - 3. Provide one copy of the recording, dated and labeled to the Construction Manager before the start of construction. Provide additional recording as directed by the Construction Manager if the recording provided is not considered suitable for the purpose of recording pre-existing conditions.
- B. Furnish an adequate number of photographs of the Site to clearly depict the completed Project.
 - 1. Provide a minimum of ten different views.
 - 2. Photograph a panoramic view of the entire Site.
 - 3. Photograph all significant areas of completed construction.
 - 4. Completion photographs are not to be taken until all construction trailers, excess materials, trash and debris have been removed.
- C. All photographs, video recordings and a digital copy of this media are to become the property of the Owner. Photographs or recordings may not be used for publication, or public or private display without the written consent of the Owner.

1.02 QUALITY ASSURANCE

- A. Provide clear photographs and recordings taken with proper exposure. View photographs and recordings in the field and take new photographs or recordings immediately if photos of an adequate print quality cannot be produced or video quality is not adequate. Provide photographs with adequate quality and resolution to permit enlargements.

1.03 SUBMITTALS

- A. Submit photographic documentation as record data in accordance with Section 01 33 00 "Submittal Procedures."
- B. Submit one DVD, CD, or USB drive of the video recording as record data in accordance with Section 01 33 00 "Submittal Procedures."

2.00 PRODUCTS

2.01 PHOTOGRAPHS

- A. Provide photographs in digital format with a minimum resolution of 1280 x 960, accomplished without a digital zoom.
- B. Take photographs at locations acceptable to the Construction Manager.
- C. Provide each photograph in digital format on a DVD, CD, or USB of each photograph taken.
- D. Identify each print on back with:
 - 1. Project name.
 - 2. Date, time, location, and orientation of the exposure.
 - 3. Description of the subject of photograph.

2.02 VIDEO RECORDING

- A. Provide digital format on DVD, CD, or USB that can be played with Windows Media Player in common format in full screen mode.
- B. Identify Project on video by audio or visual means.
- C. Video file size should not exceed 400 MB.
- D. Video resolution shall be 1080p.
- E. The quality of the video must be sufficient to determine the existing conditions of the construction area. Camera panning must be performed while at rest, do not pan the camera while walking or driving. Camera pans should be performed at intervals sufficient to clearly view the entire construction area.
- F. Media shall be labeled with construction stationing and stationing should be called out, voice recorded, in the video.
- G. The entire construction area recording shall be submitted at once. Sections submitted separately will not be accepted.
- H. Pipeline projects should be recorded linearly from beginning to end.

3.00 EXECUTION (NOT APPLICABLE)

END OF SECTION

01 33 00 SUBMITTAL PROCEDURES

1.00 GENERAL

1.01 WORK INCLUDED

- A. Submit documentation as required by the Contract Documents and as reasonably requested by the Owner and Engineer to:
 - 1. Record the products incorporated into the Project for the Owner.
 - 2. Provide information for operation and maintenance of the Project.
 - 3. Provide information for the administration of the Contract.
 - 4. Allow the Engineer to advise the Owner if products proposed for the Project by the Contractor conform, in general, to the design concepts of the Contract Documents.
- B. Contractor's responsibility for full compliance with the Contract Documents is not relieved by the Engineer's review of submittals. Contract modifications can only be approved by Change Order or Field Order.

1.02 CONTRACTOR'S RESPONSIBILITIES

- A. Review and certify all submittals prior to submission.
- B. Determine and verify:
 - 1. Field measurements.
 - 2. Field construction requirements.
 - 3. Location of all existing structures, utilities and equipment related to the submittals.
 - 4. Submittals are complete for their intended purpose.
 - 5. Conflicts between the submittals related to the various Subcontractors and Suppliers have been resolved.
 - 6. Quantities and dimensions shown on the submittals.
- C. Submit information per the procedures described in this section and the Specifications.
- D. Furnish the following submittals:
 - 1. As specified in the submittal schedule or as specified in the individual Specification Sections.
 - 2. Schedules, data and other documentation as described in detail in this section or referenced in the General Conditions and Contract Documents.
 - 3. Documentation required for the administration of the Contract per Section 01 31 00 "Project Management and Coordination."
 - 4. Shop Drawings required for consideration of a contract modification per Paragraph 1.08.
 - 5. Submittals for all proposed materials.
 - 6. Submittals not required will be returned without Engineer's review.

- E. Prepare a comprehensive list of required submittals including a schedule indicating the approximate date submittals will be sent to the Engineer and proposed dates that the product will be incorporated into the Project. Submit list to the Engineer for review. Make submittals promptly in accordance with the schedule to cause no delay in the Project.
 - 1. Send submittals to the Engineer allowing a reasonable time for delivery, review and marking submittals. Include time for review of a resubmission if necessary. Allow adequate time for the submittal review process, ordering, fabrication, and delivery of the product to not delay progress on the Project.
 - 2. Schedule submittal to provide all information for interrelated Work at one time. No review will be performed on submittals requiring coordination with other submittals. Engineer will return submittals for resubmission as a complete package.
- F. Submit information for all of the components and related equipment required for a complete and operational system in the same submittal.
 - 1. Provide certifications, warranties, and written guarantees with the submittal package for review when they are required.
 - 2. Fabrication or installation of any products prior to the approval of Shop Drawings is done at the Contractor's risk. Products not meeting the requirements of Contract Documents are defective and may be rejected at the Owner's option.
- G. Payment will not be made for products for which submittals are required until the submittals have been received. Payment will not be made for products for which Shop Drawings or Samples are required until these are approved by the Engineer.

1.03 QUALITY ASSURANCE

- A. Submit legible, accurate, complete documents presented in a clear, easily understood manner. Submittals not meeting these criteria will be returned without review.
- B. Demonstrate that the proposed products are in full and complete compliance with the design criteria and requirements of the Contract Documents including Drawings and Specifications as modified by Addenda, Field Orders, and Change Orders.
- C. Furnish and install products that fully comply with the information included in the submittal.

1.04 SUBMITTAL PROCEDURES

- A. Submit an electronic copy of each submittal by email.
 - 1. The complete contents of each submittal, including associated drawings product data, etc., shall be submitted in Portable Document Format (PDF.) Submit PDF document with adequate resolution to allow documents to be printed in a format equivalent to the document original. Documents are to be scalable to allow printing on standard 8-1/2 x 11 or 11 x 17 paper size.
 - 2. Create and submit color PDF documents where color is important to the evaluation of the submittal and / or where comments will be lost if only black and white PDF documents are provided. Submit Samples and color charts as specified herein.
- B. Transmit all submittals, with a properly completed Submittal Transmittal Form as provided by the Engineer.

1. Use a separate transmittal form for each specific product, class of material, and equipment system.
 2. Submit items specified in different sections of the Specifications separately unless they are part of an integrated system.
- C. Assign a submittal number to the documents originated to allow tracking of the submittal during the review process.
1. Assign the number consisting of a prefix, a sequence number, and a letter suffix. Prefixes shall be as follows:

| Prefix | Description | Originator |
|--------|---------------------------------|------------|
| AP | Application for Payment | Contractor |
| CO | Change Order | Engineer |
| CMR | Contract Modification Request | Contractor |
| CTR | Certified Test Report | Contractor |
| EIR | Equipment Installation Report | Contractor |
| FO | Field Order | Engineer |
| NBC | Notification by Contractor | Contractor |
| O&M | Operation & Maintenance Manuals | Contractor |
| PD | Photographic Documentation | Contractor |
| RD | Record Data | Contractor |
| RFI | Request for Information | Contractor |
| SAM | Sample | Contractor |
| SD | Shop Drawing | Contractor |
| SCH | Schedule of Progress | Contractor |

2. Issue sequence numbers in chronological order for each type of submittal.
 3. Issue numbers for resubmittals that have the same number as the original submittal followed by an alphabetical suffix indicating the number of times the same submittal has been sent to the Engineer for processing. For example: SD 025 A represents shop drawing number 25 and the letter "A" designates this is the second time this submittal has been sent for review.
 4. Clearly note the submittal number on each page or sheet of the submittal.
 5. Correct assignment of numbers is essential since different submittal types are processed in different ways.
- D. Submit documents with uniform markings.
1. Mark submittals to:
 - a. Highlight Contractor's corrections in green.

- b. Highlight items pertinent to the products being furnished in yellow and delete items that are not when the Supplier's standard drawings or information sheets are provided.
 - c. Cloud items and highlight in yellow where selections by the Engineer or Owner are required.
 - d. Mark dimensions with the prefix FD to indicate field verified dimensions on the Shop Drawings.
 - e. Provide an 8-by-3-inch blank space for Contractor's and Engineer's stamp. Contractor may use a digital certification if this is preferred. The certification must bear a digital signature.
- 2. Define abbreviations and symbols used in Shop Drawings.
 - a. Use terms and symbols in Shop Drawings consistent with the Contract Drawings.
 - b. Provide a list of abbreviations and their meaning as used in the Shop Drawings.
 - c. Provide a legend for symbols used on Shop Drawings.
- E. Mark submittals to reference the Drawing number and/or section of the Specifications, detail designation, schedule or location that corresponds with the data submitted. Other identification may also be required, such as layout drawings or schedules to allow the reviewer to determine where a particular product is to be used.
- F. Deliver Samples required by the Specifications to the Site. Provide a minimum of two Samples.
- G. Construct mock-ups from the actual products to be used in construction per detailed Specifications.
- H. Submit color charts and Samples for every product requiring color, texture or finish selection.
 - 1. Submit all color charts and Samples at one time.
 - 2. Do not submit color charts and Samples until all record data have been submitted or Shop Drawings for the products have been approved.
 - 3. Submit color charts and Samples not less than 30 days prior to when these products are to be ordered or released for fabrication to comply with the schedule for construction of the Project.
- I. Submit Contract Modification Request per Section 01 31 00 "Project Management and Coordination" to request modifications to the Contract Documents.

1.05 REVIEW PROCEDURES

- A. Shop drawings are reviewed in the order received, unless Contractor requests that a different priority be assigned.
- B. Mark a submittal as "Priority" to place the review for this submittal ahead of submittals previously delivered. Priority submittals will be reviewed before other submittals for this Project which have been received but not reviewed. Use discretion in the use of "Priority"

submittals as this may delay the review of submittals previously submitted. Revise the Schedule of Contractor's Submittals for substantial deviations from the previous schedule.

C. Review procedures vary with the type of submittal as described herein.

1.06 SUBMITTAL REQUIREMENTS

A. Shop Drawings are required for those products that cannot adequately be described in the Contract Documents to allow fabrication, erection or installation of the product without additional detailed information from the Supplier.

1. Shop Drawings are requested so that the Engineer can:

- a. Compare the proposed features of the product with the specified features so as to advise the Owner that the product does, in general, conform to the Contract Documents.
- b. Compare the performance features of the proposed product with those specified so as to advise the Owner that it appears that the product will meet the designed performance criteria.
- c. Review required certifications, guarantees, warranties, and service agreements for compliance with the Contract Documents.

2. Certify on the Contractor's stamp that the Contractor has reviewed the Shop Drawings and made all necessary corrections such that the products, when installed, will be in full compliance with the Contract Documents. Shop Drawings submitted without this certification will be returned without review.

3. Submit Shop Drawings for:

- a. All materials.

4. Include a complete description of the material or equipment to be furnished.

Information is to include:

- a. Type, dimensions, size, arrangement, model number, and operational parameters of the components.
- b. Weights, gauges, materials of construction, external connections, anchors, and supports required.
- c. Performance characteristics, capacities, engineering data, motor curves, and other information necessary to allow a complete evaluation of mechanical components.
- d. All applicable standards such as ASTM or Federal specification numbers.
- e. Fabrication and installation drawings, setting diagrams, manufacturing instructions, templates, patterns, and coordination drawings.
- f. Wiring and piping diagrams and related controls.
- g. Mix designs for concrete, asphalt, or other materials proportioned for the Project.
- h. Complete and accurate field measurements for products which must fit existing conditions. Indicate on the submittal that the measurements represent actual dimensions obtained at the Site.

5. Provide all required statements of certification, guarantees, extended service agreements, and other related documents with the Shop Drawing. The effective date of these documents shall be the date of acceptance of the Work by the Owner.
6. Comments will be made on items called to the attention of the Engineer for review and comment. Any marks made by the Engineer do not constitute a blanket review of the submittal or relieve the Contractor from responsibility for errors or deviations from the Contract requirements.
 - a. Submittals that are reviewed will be returned with one or more of the following designations:
 - 1). Approved: Submittal is found to be acceptable as submitted.
 - 2). Approved as Noted: Submittal is acceptable with corrections or notations made by Engineer and may be used as corrected.
 - 3). Revise and Resubmit: Submittal has deviations from the Contract Documents, significant errors, or is inadequate and must be revised and resubmitted for subsequent review.
 - 4). Not Approved: Products are not acceptable.
 - b. Drawings with a significant or substantial number of markings by the Contractor may be marked "Approved as Noted" and "Revise and Resubmit." These drawings are to be revised to provide a clean record of the submittal.
 - c. Dimensions or other data that do not appear to conform to the Contract Documents will be marked as "At Variance With" (AVW) the Contract Documents or other information provided. The Contractor is to make revisions as appropriate to comply with Contract Documents.
- B. Certifications, Warranties and Service Agreements include documents as specified in the individual Specifications, as shown in the submittal schedule, or as follows:
 1. Certified Test Reports (CTR): A report prepared by an approved testing agency giving results of tests performed on products to indicate their compliance with the Specifications (refer to Section 01 40 00 "Quality Requirements.").
 2. Certification of Local Field Service (CLS): A certified letter stating that field service is available from a factory or supplier approved service organization located within a 300 mile radius of the Site. List names, addresses, and telephone numbers of approved service organizations on or attach it to the certificate.
 3. Extended Warranty (EW): A guarantee of performance for the product or system beyond the normal 1 year warranty described in the General Conditions. Issue the warranty certificate in the name of the Owner.
 4. Extended Service Agreement (ESA): A contract to provide maintenance beyond that required to fulfill requirements for warranty repairs, or to perform routine maintenance for a definite period beyond the warranty period. Issue the service agreement in the name of the Owner.
 5. Certification of Adequacy of Design (CAD): A certified letter from the manufacturer of the equipment stating that they have designed the equipment to be structurally stable

and to withstand all imposed loads without deformation, failure, or adverse effects to the performance and operational requirements of the unit. The letter shall state that mechanical and electrical equipment is adequately sized to be fully operational for the conditions specified or normally encountered by the product's intended use.

6. Certification of Applicator/Subcontractor (CSQ): A certified letter stating that the Applicator or Subcontractor proposed to perform a specified function is duly designated as factory authorized and trained for the application of the specified product.
- C. Submit record data to provide information to allow the Owner to adequately identify the products incorporated into the Project and allow replacement or repair at some future date.
1. Provide record data for all products per the submittal schedule or as specified in the individual Specification Sections. Record data is not required for items for which Shop Drawings and/or operations and maintenance manuals are required.
 2. Provide information only on the specified products. Submit a Contract Modification Request for approval of deviations or substitutions and obtain approval by Field Order or Change Order prior to submitting record data.
 3. Provide the same information required for Shop Drawings.
 4. Record data will be received by the Engineer, logged, and provided to Owner for the Project record.
 - a. Record data may be reviewed to see that the information provided is adequate for the purpose intended. Inadequate drawings may be returned as unacceptable.
 - b. Record data is not reviewed for compliance with the Contract Documents. Comments may be returned if deviations from the Contract Documents are noted during the cursory review performed to see that the information is adequate.
- D. Submit Request for Information (RFI) in accordance with Section 01 31 00 "Project Management and Coordination."
- E. Submit a Schedule of Values and Application for Payment (AP) in accordance with Section 01 29 00 "Payment Procedures."
- F. Submit Certified Test Reports (CTR) from independent testing laboratories in accordance with Section 01 40 00 "Quality Requirements."
1. Submit test reports for material fabricated for this Project with Shop Drawings for that product.
 2. Submit test reports produced at the point of production for standard production products with the record data for that product.
- G. Submit a list of Suppliers and Subcontractors as record data in accordance with Section 01 31 00 "Project Management and Coordination."
- H. Submit Notifications by Contractor (NBC) in accordance with Section 01 31 00 "Project Management and Coordination."
- I. Submit Photographic Documentation (PD) in accordance with Section 01 32 34 "Photographic Documentation."

1.07 REQUESTS FOR DEVIATION

- A. Submit requests for deviation from the Contract Documents for any product that does not fully comply with the Contract Documents.
- B. Submit request by Contract Modification Request (CMR) per Section 01 31 00 "Project Management and Coordination." Identify the deviations and the reason the change is requested.
- C. Include the amount of cost savings to the Owner for deviations that result in a reduction in cost.
- D. A Change Order or Field Order will be issued by the Engineer for deviations approved by the Owner. Deviations from the Contract Documents may only be approved by Change Order or Field Order.

1.08 WARRANTIES AND GUARANTEES

- A. Submit warranties and guarantees required by the Contract Documents with the Shop Drawings or record data.
- B. Provide a separate manual for warranties and guarantees.
 - 1. Provide a log of all products for which warranties or guarantees are provided, and for all equipment. Index the log by Specification section number on forms provided by the Engineer.
 - 2. Indicate the start date, warranty or guarantee period and the date upon which the warranty or guarantee expires for products or equipment for which a warranty or guarantee is required.
 - 3. Indicate the date for the start of the correction period specified in the General Conditions for each piece of equipment and the date on which the specified correction period expires.
 - 4. Provide a copy of the warranty or guarantee under a tab indexed to the log.

1.09 RESUBMISSION REQUIREMENTS

- A. Make all corrections or changes in the submittals required by the Engineer and resubmit until approved.
- B. For Shop Drawings:
 - 1. Revise initial drawings or data and resubmit as specified for the original submittal.
 - 2. Highlight in yellow those revisions which have been made in response to the first review by the Engineer.
 - 3. Highlight in blue any new revisions which have been made or additional details of information that has been added since the previous review by the Engineer.
- C. Pay for excessive review of Shop Drawings.
 - 1. Excessive review of Shop Drawings is defined as any review required after the original review has been made and the first resubmittal has been checked to see that corrections have been made.

2. Cost for additional review time will be billed to the Owner by the Engineer for the actual hours required for the review and marking of Shop Drawings by Engineer.
3. Pay cost for the additional review to the Owner on a monthly basis as billed by the Owner.
4. Need for more than one resubmission or any other delay of obtaining Engineer's review of submittals, will not entitle the Contractor to an extension of Contract Time. All costs associated with such delays shall be at the Contractor's expense.

1.10 ENGINEER'S DUTIES

- A. Review the submittals and return with reasonable promptness.
- B. Affix stamp, indicate approval, rejection, and the need for resubmittal.
- C. Distribute documents.

2.00 PRODUCTS (NOT APPLICABLE)

3.00 EXECUTION (NOT APPLICABLE)

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01 40 00 QUALITY REQUIREMENTS

1.00 GENERAL

1.01 CONTRACTOR'S RESPONSIBILITIES

- A. Control the quality of the Work and verify that the Work meets the standards of quality established in the Contract Documents.
 - 1. Inspect the Work of the Contractor, Subcontractors and Suppliers. Correct defective Work.
 - 2. Inspect products and materials to be incorporated into the Project. Ensure that Suppliers of raw materials, parts, components, assemblies, and other products have adequate quality control system to ensure that quality products are produced. Provide only products that comply with the Contract Documents.
 - 3. Provide all facilities and calibrated equipment required for quality control tests.
 - 4. Provide consumable construction materials of adequate quality to provide a finished product that complies with the Contract Documents.
 - 5. Perform tests as indicated in this and other sections of the Specifications. Schedule the time and sequence of testing with the Engineer. All quality control testing is to be observed by the Engineer or designated representative.
 - 6. Maintain complete inspection and testing records at the Site and make them available to Owner, Engineer and Engineer.
- B. Retain the services of a professional materials testing laboratory selected and approved by the Owner and Engineer to ensure that Work fully complies with the Contract Documents. Provide services of a testing laboratory capable of performing a full range of testing procedures complying with the standards for testing procedures specified, with personnel certified to perform the tests required. An allowance is provided in the Bid to pay for the services of the testing laboratory (Reference Section 01 23 10 – Alternates and Allowances).
 - 1. Coordinate scheduling of testing laboratory.
 - 2. Provide access to the Work at all times Work is in progress.
 - 3. Cooperate fully in the performance of sampling, inspection, and testing.
 - 4. Furnish labor and facilities to:
 - a. Provide access to the Work to be tested.
 - b. Obtain and handle Samples for testing at the Site or at the source of the product to be tested.
 - c. Facilitate inspections and tests.
 - d. Provide adequate lighting to allow observations.
 - e. Store and cure test Samples.
 - 5. Furnish copies of the tests performed on materials and products.

6. Provide adequate quantities of representative product to be tested to the laboratory at the designated location.
 7. Give the Engineer or Owner's representative adequate notice before proceeding with Work that would interfere with testing.
 8. Notify the Engineer or Owner's representative and the testing laboratory prior to the time that testing is required. Lead time is to be adequate to allow arrangements to be made for testing.
 9. Do not proceed with any Work until testing services have been performed and results of tests indicate that the Work is acceptable.
 10. Provide complete access to the Site and make Contract Documents available.
 11. Provide personnel and equipment needed to perform sampling or to assist in making the field tests.
- C. Technical specifications govern if any requirements of this section conflicts with the requirements of the technical specifications.

1.02 QUALITY ASSURANCE ACTIVITIES BY THE OWNER

- A. Owner may perform its own quality assurance test independent of the work performed under the testing allowance described above. Assist the Owner, Engineer, and testing organizations in performing quality assurance activities. Quality assurance testing performed by the Owner will be paid for by the Owner.
- B. Quality assurance activities of the Owner through their own forces or through contracts with materials testing laboratories and survey crews are for the purpose of monitoring the results of the Contractor's Work to see that it is in compliance with the requirements of the Contract Documents.
- C. Quality assurance activities of the Owner or non-performance of quality assurance activities:
1. Do not relieve the Contractor of its responsibility to perform Work and furnish materials and products and constructed Work conforming to the requirements of the Contract Documents.
 2. Do not relieve the Contractor of its responsibility for providing adequate quality control measures.
 3. Do not relieve the Contractor of its responsibility for damage to or loss of the material, product or Work before Owner's acceptance.
 4. Do not constitute or imply Owner's acceptance.
 5. Do not affect the continuing rights of the Owner after Owner's acceptance of the completed Work.
- D. The presence or absence of the Owner's Resident Representative or Engineer does not relieve the Contractor from any contract requirement, nor is the Owner's Resident Representative or Engineer authorized to change any term or condition of the Contract Documents without the Owner's written authorization in a Field Order or Change Order.

- E. Failure on the part of the Owner or Engineer to perform or test products or constructed Works in no way relieves the Contractor of the obligation to perform Work and furnish materials conforming to the Contract Documents.
- F. All materials and products are subject to Owner's quality assurance observations or testing at any time during preparation or use. Material or products which have been tested or observed or approved by Owner at a supply source or staging area may be re-observed or re-tested by Owner before or during or after incorporation into the Work, and rejected if they do not comply with the Contract Documents.

1.03 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 00 "Submittal Procedures" and shall include:
 - 1. A written Quality Management Plan that establishes the methods of assuring compliance with the Contract Documents. Submit this program as Record Data.
 - 2. A Statement of Qualifications for the proposed testing laboratory. The statement of qualifications is to include a list of the engineers and technical staff that will provide testing services on the Project, descriptions of the qualifications of these individuals, list of tests that can be performed, equipment used with date of last certification and a list of recent projects for which testing has been performed with references for those projects.
 - 3. Test reports per Paragraph 1.07 of this Specification. Reports are to certify that products or constructed Works are in full compliance with the Contract Documents or indicate that they are not in compliance and describe how they are not in compliance.
 - 4. Provide Certified Test Reports on materials or products to be incorporated into the Project. Reports are to indicate that material or products are in full compliance with the Contract Documents or indicate that they are not in compliance and describe how they are not in compliance.

1.04 STANDARDS

- A. Provide a testing laboratory that complies with the ACIL (American Council of Independent Laboratories) "Recommended Requirements for Independent Laboratory Qualifications."
- B. Perform testing per recognized test procedures as listed in the various sections of the Specifications, standards of the State Department of Transportation, American Society of Testing Materials (ASTM), or other testing associations. Perform tests in accordance with published procedures for testing issued by these organizations.

1.05 DELIVERY AND STORAGE

- A. Handle and protect test specimens of products and construction materials at the Site in accordance with recognized test procedures.

1.06 VERIFICATION TESTING

- A. Provide verification testing when tests indicate that materials or the results of construction activities are not in conformance with Contract Documents.

- B. Verification testing is to be provided at the Contractor's expense to verify products or constructed works are in compliance after corrections have been made.
- C. Tests must comply with recognized methods or with methods recommended by the testing laboratory and approved by the Engineer.

1.07 TEST REPORTS

- A. Test reports are to be prepared for all tests.
 - 1. Tests performed by testing laboratories may be submitted on their standard test report forms. These reports must include the following:
 - a. Name of the Owner, project title and number, equipment installer and general contractor.
 - b. Name of the laboratory, address, and telephone number.
 - c. Name and signature of the laboratory personnel performing the test.
 - d. Description of the product being sampled or tested.
 - e. Date and time of sampling, inspection, and testing.
 - f. Date the report was issued.
 - g. Description of the test performed.
 - h. Weather conditions and temperature at time of test or sampling.
 - i. Location at the Site or structure where the test was taken.
 - j. Standard or test procedure used in making the test.
 - k. A description of the results of the test.
 - l. Statement of compliance or non-compliance with the Contract Documents.
 - m. Interpretations of test results, if appropriate.
 - 2. Submit reports on tests performed by Contractor or his suppliers or vendors on the forms provided by the Engineer.
 - 3. Engineer will prepare test reports on test performed by the Engineer.
- B. Distribute copies of the test reports to the Engineer within 24 hours of completing the test. Flag tests reports with results that do not comply with Contract Documents for immediate attention. Hard copies of test reports are to be distributed to individuals designated at the pre-construction conference:

| Recipient | No. of Copies |
|------------|---------------|
| Owner | 1 |
| Engineer | 1 |
| Contractor | 1 |

- C. Payment for Work subject to testing may be withheld until the Contractor's quality control test reports of the Work are submitted to the Engineer or the Owner's Resident Representative.

1.08 NON-CONFORMING WORK

- A. Immediately correct any Work that does not comply with the Contract Documents or submit a written explanation of why the Work is not to be corrected immediately and when corrective action to the Work will be performed.
- B. Payment for non-conforming Work shall be withheld until Work is brought into compliance with the Contract Documents.

1.09 LIMITATION OF AUTHORITY OF THE TESTING LABORATORY

- A. The testing laboratory representatives are limited to providing consultation on the test performed and to an advisory capacity.
- B. The testing laboratory is not authorized to:
 - 1. Alter the requirements of the Contract Documents.
 - 2. Accept or reject any portion of the Work.
 - 3. Perform any of the duties of the Contractor.
 - 4. Stop the Work.

1.10 QUALITY CONTROL PLAN

- A. Submit Contractor's Quality Control Plan that identifies personnel, procedures, control, instructions, tests, records, and forms to be used. Construction will be permitted to begin only after acceptance of the Quality Control Plan or acceptance of an interim plan applicable to the particular feature of Work to be started. Work outside of the features of Work included in an accepted interim plan will not be permitted to begin until acceptance of a Quality Control Plan or another interim plan containing the additional features of Work to be started.
- B. Content of the Quality Control Plan. The Quality Control Plan shall include, as a minimum, the following to address all construction operations, both on-site and off-site, including work by Subcontractors and Suppliers:
 - 1. A description of the quality control organization, including a chart showing lines of authority and acknowledgement that the quality control staff shall implement the quality control program for all aspects of the Work specified.
 - 2. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a quality control function.
 - 3. A copy of the letter to the Quality Control Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the Quality Control Manager, including authority to stop Work which does not comply with the Contract Documents or will result in Work that does not comply with the Contract Documents. The Quality Control Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters shall also be furnished to the Engineer.

4. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of Subcontractors and Suppliers.
 5. Control, verification, and acceptance testing procedures for each specific test is to include the test name, specification paragraph requiring test, feature of Work to be tested, test frequency, person responsible for each test, applicable industry testing standards and laboratory facilities to be used for the test.
 6. Procedures for tracking phases of quality control, verification, and acceptance tests including documentation.
 7. Procedures for tracking construction deficiencies from identification through acceptable corrective action. Indicate how documentation of the verification process for deficiencies will be made.
 8. Reporting procedures, including proposed reporting formats.
 9. The name of the proposed testing laboratory along with documentation of qualifications, a list of tests that can be performed, and a list of recent projects for which similar testing has been performed with references from those projects.
- C. Notification of Changes. After submittal of the Quality Control Plan, the Contractor shall notify the Owner in writing of any proposed changes.
- D. Coordination Meeting. After the Pre-construction Meeting and before start of construction, the Contractor shall meet with the Owner and Engineer to discuss the Contractor's Quality Control Plan. The Quality Control Plan shall be submitted a minimum of 14 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the Quality Control operations, testing, administration of the system for both on-site and off-site Work, and the interrelationship of Contractor's management and control with the Owner's Quality Assurance. Revise the Quality Management Plan to reflect comments and recommended changes resulting from this meeting.

2.00 PRODUCTS

2.01 TESTING APPARATUS

- A. Furnish testing apparatus and related accessories necessary to perform the tests.

3.00 EXECUTION

3.01 QUALITY CONTROL PROGRAM

- A. Perform quality control observations and testing as required in each section of the Specifications and where indicated on the Drawings.
- B. Provide a quality control program that includes the following phases for each definable Work task. A definable Work task is one which is separate and distinct from other tasks, has separate control requirements, may be provided by different trades or disciplines, or may be Work by the same trade in a different environment.

1. Planning Phase: Perform the following before beginning each definable Work task:
 - a. Review the contract drawings.
 - b. Review submittals and determine that they are complete in accordance with the Contract Documents.
 - c. Check to assure that all materials and/or equipment have been tested, submitted, and approved.
 - d. Examine the work area to assure that all required preliminary Work has been completed and complies with the Contract Documents.
 - e. Examine required materials, equipment, and sample Work to assure that they are on hand, conform to submittals, and are properly stored.
 - f. Review requirements for quality control inspection and testing.
 - g. Discuss procedures for controlling quality of the Work. Document construction tolerances and workmanship standards for the Work task.
 - h. Check that the portion of the plan for the Work to be performed incorporates submittal comments.
 - i. Discuss results of planning phase with the Engineer. Conduct a meeting attended by the Quality Control Manager, the Engineer, superintendent, other quality control personnel as applicable, and the foreman responsible for the Work task. Instruct applicable workers as to the acceptable level of workmanship required in order to meet the requirements of the Contract Documents. Document the results of the preparatory phase actions by separate meeting minutes prepared by the Quality Control Manager and attached to the quality control report.
 - j. Do not move to the next phase unless results of investigations required for the planning phase indicate that requirements have been met.
2. Work Phase: Complete this phase after the Planning Phase:
 - a. Notify the Engineer at least 24 hours in advance of beginning the Work and discuss the review of the planning effort to indicate that requirements have been met.
 - b. Check the Work to ensure that it is in full compliance with the Contract Documents.
 - c. Verify adequacy of controls to ensure full compliance with Contract Documents. Verify required control inspection and testing is performed.
 - d. Verify that established levels of workmanship meet acceptable workmanship standards. Compare with required sample panels as appropriate.
 - e. Repeat the Work phase for each new crew to work on-site, or any time acceptable specified quality standards are not being met.
3. Follow-up Phase: Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements:
 - a. Make checks daily and record observations in the quality control documentation.

- b. Conduct follow-up checks and correct all deficiencies prior to the start of additional Work tasks that may be affected by the defective Work. Do not build upon nor conceal non-conforming Work.
 - c. Conduct a review of the Work 1 month prior to the expiration of the correction period prescribed in the General Conditions with the Owner and Engineer. Correct defects as noted during the review.
- C. Conduct additional planning and Work phases if:
 - 1. The quality of on-going Work is unacceptable.
 - 2. Changes are made in applicable quality control staff, on-site production supervision or work crew.
 - 3. Work on a task is resumed after a substantial period of inactivity.
 - 4. Other quality problems develop.

3.02 CAST-IN-PLACE CONCRETE TESTING

- A. Testing Agency: Engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article.
- B. Tests: Perform according to ACI 301.
 - 1. Testing Frequency: One composite Sample shall be obtained for each day's pour of each concrete mix exceeding 5 cubic yards but less than 25 cubic yards, plus one set for each additional 50 cubic yards or fraction thereof.

3.03 LEAKAGE TESTS FOR STRUCTURES

- A. Test structures that will contain water on a full time or intermittent basis for leaks. Perform tests prior to installing equipment or materials within the structure. In the event that the structure fails to pass the test, drain the structure, repair the leaks, re-fill, and re-test the structure. Repeat tests until the structure passes the test. The Owner may repeat the test at any time during the correction period established in the General Conditions.
- B. Test the structure for leakage using the following procedure:
 - 1. Determine the evaporation allowance for loss of water.
 - a. Use a standard circular pan procedure established by the U.S. Weather Bureau to measure evaporation rate.
 - b. Calculate evaporation allowance by multiplying the evaporation rate in gallons per 24 hours per square foot of surface area by the open surface area of the water in the structure.
 - 2. Calculate the allowable leakage for the structure. Allowable leakage is calculated as 0.03 gallons per square foot of concrete area in contact with the water per 24 hours.
 - 3. Fill the structure to the overflow level with water at a rate not to exceed 2 feet per hour.
 - 4. Allow the structure to set for a minimum of 72 hours.
 - 5. Observe the perimeter of the structure and identify all leaks.

6. Repair structure walls and floors where leaks have been identified.
 7. Mark the water level at the structure wall. Measure the fall in water level over a 24-hour period to the nearest 1/8 inch at least twice a day to determine the quantity of water lost. Provide a stilling well for measurement if required to allow accurate measurement.
 8. Calculate the amount of water lost during this time.
 9. Compare the amount of water lost to the allowable loss.
- C. Drain the structure, determine the sources of leakage and repair if the amount of water lost exceeds the allowable leakage plus the evaporation allowance.

3.04 PIPING SYSTEMS

A. Test Requirements:

1. Perform test on piping systems including piping installed between or connected to existing pipe.
2. Conduct tests on buried pipe to be hydrostatically tested after the trench is completely backfilled. If field conditions permit and if approved by the Engineer, partially backfill the trench and leave the joints open for inspection and conducting of the initial service leak test. Do not conduct the acceptance test until backfilling is complete.
3. Pneumatically test the buried piping and expose joints of the buried piping for the acceptance test.
4. Conduct the test on exposed piping after the piping is completely installed, including supports, hangers, and anchors, but prior to insulation and coating application.
5. Do not perform testing on pipe with concrete thrust blocking until the concrete has cured at least 5 days.
6. Determine and remedy the cause of the excessive leakage for any pipe failing to meet the specified requirements for water or air tightness.
7. Tests must be successfully completed and reports filed before piping is accepted.
8. Submit a comprehensive plan and schedule for testing to the Engineer for review at least 10 days prior to starting each type of testing.
9. Remove and dispose of temporary blocking material and equipment after completion and acceptance of the piping test.
10. Repair any damage to the pipe coating.
11. Clean pipelines so they are totally free flowing prior to final acceptance.
12. Test piping independently from tests on structures.
13. Test method and test pressure depend upon the application of the piping.
 - a. Pressure pipe is defined as piping that is part of a pumped or pressurized system. Perform test for pressure pipe per the procedures indicated in Paragraph B of this section.

- b. Chemical processing lines are to be tested as pressure pipe regardless of the operating conditions. The test pressure is to be 1.5 times the pressure rating of the pipe.
- c. Process piping between hydraulic structures is to be considered as pressure pipe. Perform the test for this pipe per Paragraph B of this section. The test pressure is to be the maximum hydrostatic head plus 10 feet. The maximum hydrostatic head is the difference in elevation of the pipe at its lowest point and the maximum top of the wall.

B. Pressure and Leakage Tests of Pressure Piping:

1. Perform hydrostatic pressure and leakage tests using methods, and per performance requirements of Section 5 of AWWA C600 regardless of pipe material tested.
 - a. The pressure required for hydrostatic pressure test shall be 50 percent above the normal working pressure, or as indicated on the drawings. If the normal working pressure cannot be determined, use the pipe pressure rating as the normal working pressure.
 - b. Provide temporary plugs and blocking necessary to maintain the required test pressure. Where piping is cast in the walls for a structure, brace the walls prior to testing as required to prevent load of test pressure from being imposed upon the structure.
 - c. Provide corporation cocks at least 3/4 inch in diameter, pipe riser, and angle globe valves at each pipe dead-end in order to bleed air from the line.
 - d. Duration of pressure test shall be at least 4 hours.
 - e. Repair any visible leaks regardless of the total leakage shown by the test.
 - f. Repair pipelines which fail to meet the test and retest as necessary until the results conform to the test requirements.
 - g. Remove and replace defective materials, pipes, valves, and accessories.
 - h. Test the pipelines in sections by shutting valves or installing temporary plugs as necessary.
 - i. Fill the pipeline with water and remove the air.
 - j. Maintain the test pressure in the pipe for the entire test period by means of a force pump.
 - k. Accurately measure the water required to maintain the pressure. The amount of water required is a measure of the leakage.

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2. The maximum allowable leakage is determined by the following formula:

$$L = \frac{SD(P)^{1/2}}{F}$$

| Equation Term | Represents | Measure |
|---------------|---|------------------------------|
| L | Maximum allowable leakage | gallons per hour |
| S | Length of pipe tested | feet |
| D | Nominal diameter of the pipe | inches |
| P | Test pressure | pounds per square inch gauge |
| F | Pipe factor | |
| | Use 148,000 Ductile Iron Pipe and PVC Pipe. | |
| | Use 133,200 for all other pipe types. | |

- Leakage is defined as the volume of water provided to maintain the test pressure after the pipe has been filled with water, the air expelled and the pipe brought to test pressure.
- Pipe with visible leaks or leakage exceeding the maximum allowable leakage is considered defective and must be corrected.

C. Hydrostatic Leak Test-Gravity Flow Sewer Lines:

- Perform hydrostatic leak tests after backfilling.
- The length of the pipe to be tested shall be such that the head over the crown of the upstream end is not less than 2 feet or 2 feet above the ground water level whichever is higher and the head over the downstream crown is not more than 6 feet.
- Plug the pipe by pneumatic bags or mechanical plugs so that the air can be released from the pipe while it is being filled with water.
- Continue the test for 1 hour and make provisions for measuring the amount of water required to maintain the water at a constant level during this period.
- Remove the jointing material, and remake the joint if any joint shows any visible leakage or infiltration.
- Remove and replace any defective or broken pipes.
- Determine the maximum allowable leakage or infiltration by the following formula:

$$L = \frac{CDS}{126720}$$

| Equation Term | Represents | Measure |
|---------------|---------------------------|------------------|
| L | Maximum allowable leakage | gallons per hour |
| S | Length of pipe tested | feet |

| | | |
|---|---|--------|
| D | Nominal diameter of the pipe | inches |
| C | Infiltration / exfiltration rate | |
| | Use 50 for C outside of 25 year floodplain. | |
| | Use 10 for C within 25 year floodplain. | |

8. Determine the rates of infiltration by means of V-Notch weirs, pipe spigot, or plugs in the end of the pipe. Methods, times, and locations are subject to the Engineer's approval.
9. Pipe with visible leaks or infiltration or exceeds the maximum allowable leakage or infiltration is considered defective and must be corrected.

D. Low Pressure Air Test- Gravity Flow Sewer Lines:

1. Use air test in lieu of the hydrostatic test if desired, or if pipeline grades do not allow filling the entire pipeline segment or manhole to the indicated depth.
2. Perform low-pressure air tests, using equipment specifically designed and manufactured for the purpose of testing sewer pipelines using low-pressure air. Test is to conform to procedure described in ASTM F1417 except for testing times. The following test times are required:

| Pipe Diameter (inches) | Minimum Time (seconds) | Length for Minimum Time (feet) | Time for Long Length (seconds) |
|------------------------|------------------------|--------------------------------|--------------------------------|
| 6 | 340 | 398 | 0.855 (L) |
| 8 | 454 | 298 | 1.520 (L) |
| 10 | 567 | 239 | 2.374 (L) |
| 12 | 680 | 199 | 3.419 (L) |
| 15 | 850 | 159 | 5.342 (L) |
| 18 | 1020 | 133 | 7.693 (L) |
| 21 | 1190 | 114 | 10.471 (L) |
| 24 | 1360 | 100 | 13.676 (L) |
| 27 | 1530 | 88 | 17.309 (L) |
| 30 | 1700 | 80 | 21.369 (L) |
| 33 | 1870 | 72 | 25.856 (L) |

- a. Provide the equipment with an air regulator valve or air safety valve set to an internal air pressure in the pipeline that cannot exceed 6 psig.
- b. Pass air through a single control panel.
- c. Provide pneumatic plugs that have a sealing length equal to or greater than the circumference of the pipe to be tested.
- d. Provide pneumatic plugs that resist internal test pressures without requiring external bracing or blocking.
- e. Provide an air compressor of adequate capacity for charging the system.

3. Perform air test only on lines less than 36 inches in diameter. Air tests for pipes larger than 36 inches may be air tested at each joint.
4. Check connections for leakage with a soap solution. Release the air pressure, repair the leak, and retest with soap solution until results are satisfactory, before resuming air test if leaks are found.
5. Determine the shortest allowable time for the pressure to drop from 3.5 pounds per square inch to 2.5 pounds per square inch by the following formula:

$$T = \frac{0.0850 DK}{Q}$$

| Equation Term | Represents | Measure |
|---------------|--|---------|
| T | Time for the pressure to drop 1.0 pound per square inch gauge | seconds |
| K | Factor equal to 0.000419DL, but not less than 1.0 | |
| D | Average inside diameter of the pipe | inches |
| L | Length of line of the same pipe size | feet |
| Q | Rate of loss. Use 0.0015 cubic feet per minute per square foot of internal surface | |

E. Air Test for Individual Joints:

1. Lines 36 inches and larger may be tested at individual joints.
2. The shortest allowable time for the pressure to drop from 3.5 pounds per square inch gauge to 2.5 pounds per square inch gauge is 10 seconds for all pipe sizes.

F. Deflection Testing for Pipe:

1. Perform deflection tests on flexible and semi-rigid pipe in accordance with NCDEQ requirements.
 - a. The maximum allowable deflection of pipe measured as the reduction in vertical inside diameter is 5.0 percent unless specified otherwise.
 - b. Conduct test after the final backfill has been in place a minimum of 30 days.
 - c. Thoroughly clear the lines before testing.
2. Perform test by pulling a properly sized mandrel through the line. Measure deflection from the inside of the pipe.
3. Excavate and repair pipe with deflections in excess of the maximum allowable deflection.

END OF SECTION

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01 50 00 TEMPORARY FACILITIES

1.00 GENERAL

1.01 WORK INCLUDED

- A. Furnish temporary facilities, including storage sheds if needed, and temporary utilities needed to complete the work.
- B. Cost for Temporary Facilities as described in this section and provided by Suppliers and Subcontractors as described in this section are to be included in the Cost of Work.

1.02 QUALITY ASSURANCE

- A. Testing: Inspect and test each service before placing temporary utilities in use. Arrange for all required inspections and tests by regulatory agencies, and obtain required certifications and permits for use.

1.03 DELIVERY AND STORAGE

- A. Arrange transportation, loading, and handling of temporary buildings and sheds.

1.04 JOB CONDITIONS

- A. Locate buildings and sheds at the Site as indicated or as approved by the Owner.
- B. Prepare the Site by removing brush, or debris and performing demolition or grubbing needed to clear a space adequate for the structures.
- C. Pay for the utilities used by temporary facilities during construction.
- D. Provide each temporary service and facility ready for use at each location when the service or facility is first needed to avoid delay in the performance of the Work.
- E. Maintain, expand as required, and modify temporary services and facilities as needed throughout the progress of the Work.
- F. Remove services and facilities when approved by the Engineer.
- G. Operate temporary facilities in a safe and efficient manner.
 - 1. Restrict loads on temporary services or facilities to within their designed or designated capacities.
 - 2. Provide sanitary conditions. Prevent public nuisance, or hazardous conditions from developing or existing at the Site.
 - 3. Prevent freezing of pipes, flooding, or the contamination of water.
 - 4. Maintain site security and protection of the facilities.

1.05 OPTIONS

- A. Storage sheds may be prefabricated buildings on skids or truck trailers.

2.00 PRODUCTS

2.01 TEMPORARY STORAGE BUILDINGS

- A. Furnish storage buildings of adequate size to store any materials or equipment delivered to the Site that might be affected by weather. Locate temporary buildings at least 30 feet from new and existing facility structures.

2.02 TEMPORARY SANITARY FACILITIES

- A. Provide sanitary facilities at the Site from the commencement of the Project until project conclusion. Maintain these facilities in a clean and sanitary condition at all times, and comply with the requirements of the local health authority. On large sites, provide portable toilets at such locations that no point in the Site shall be more than 600 feet from a toilet.

2.03 TEMPORARY UTILITIES

- A. Provide the temporary utilities for administration, construction, testing, disinfection, and start-up of the Work, including electrical power and water. Pay all costs associated with furnishing temporary utilities.
 - 1. Provide a source of temporary electrical power of adequate size for the construction procedures.
 - 2. Provide temporary water. Potable water may be purchased from the City by obtaining a water meter from the City and transporting water from a water hydrant. Non-potable water may be used for hydraulic testing of basins. Pay all water costs for construction, testing, disinfection, and start-up of the Work.

3.00 EXECUTION

3.01 LOCATION OF TEMPORARY FACILITIES

- A. Locate all temporary facilities in areas approved by the Owner/Engineer.

3.02 TEMPORARY LIGHTING

- A. Provide portable flood lights at any time that Work will be performed outside the structure at night. Provide adequate lighting to provide sufficient light at any location Work is being performed.
- B. Work outside the hours of 7:00 a.m. to 6:00 p.m. will not normally be permitted. Obtain prior authorization from the Owner and Engineer for any night / weekend Work required for Critical Work.

3.03 REMOVAL OF TEMPORARY FACILITIES

- A. Remove temporary buildings, sheds, and utilities at the conclusion of the Project and restore the Site to original condition or finished in accordance with the Drawings.

END OF SECTION

01 57 00 TEMPORARY CONTROLS

1.00 GENERAL

1.01 WORK INCLUDED

- A. Provide labor, materials, equipment and incidentals necessary to construct temporary facilities to provide and maintain control over environmental conditions at the Site. Remove temporary facilities when no longer needed.
- B. Construct temporary impounding works, channels, diversions, furnishing and operation of pumps, installing piping and fittings, and other construction for control of conditions at the Site. Remove temporary controls at the end of the Project.
- C. Provide labor, materials, equipment, and incidentals necessary to prevent storm water pollution for the duration of the Project. Provide and maintain erosion and sediment control structures as required to preventive sediment and other pollutants from the Site from entering any storm water system, including open channels. Remove pollution control structures when no longer required to prevent storm water pollution.
- D. Cost for Temporary Controls as described in this Section and provided by Suppliers and Subcontractors as described in this Section are to be included in the Cost of Work.

1.02 QUALITY ASSURANCE

- A. Construct and maintain temporary controls with adequate workmanship using durable materials to provide effective environmental management systems meeting the requirements of the Contract Documents and requiring minimal maintenance that will disrupt construction activities while providing adequate protection of the environment.
- B. Periodically inspect systems to determine that they are meeting the requirements of the Contract Documents.

1.03 SUBMITTALS

- A. Provide copies of notices, records and reports required by the Contract Documents or regulations as Record Data in accordance with Section 01 33 00 "Submittal Procedures."
- B. Provide documents requiring approval by the Owner or Engineer as Shop Drawings in accordance with Section 01 33 00 "Submittal Procedures."

1.04 POLLUTION CONTROL

- A. Prevent the contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations. Provide adequate measures to prevent the creation of noxious air-borne pollutants. Prevent dispersal of pollutants into the atmosphere. Do not dump or otherwise discharge noxious or harmful fluids into drains or sewers, nor allow noxious liquids to contaminate public waterways in any manner.
- B. Provide equipment and personnel and perform emergency measures necessary to contain any spillage.

1. Contain chemicals in protective areas and do not dump on soil. Dispose of such materials at off-site locations in an acceptable manner.
 2. Excavate contaminated soil and dispose at an off-site location if contamination of the soil does occur. Fill resulting excavations with suitable backfill and compact to the density of the surrounding undisturbed soil.
 3. Provide documentation to the Owner which states the nature and strength of the contaminant, method of disposal, and the location of the disposal site.
 4. Comply with local, State and Federal regulations regarding the disposal of pollutants.
- C. Groundwater or run-off water which has come into contact with noxious chemicals, sludge, or sludge-contaminated soil is considered contaminated. Contaminated water must not be allowed to enter streams or water courses, leave the Site in a non-contained form or enter non-contaminated areas of the Site.
1. Pump contaminated water to holding ponds constructed by the Contractor for this purpose, or discharge to areas on the interior of the Site, as designated by the Engineer.
 2. Construct temporary earthen dikes or take other precautions and measures as required to contain the contaminated water and pump to a designated storage area.
 3. Wash any equipment used for handling contaminated water or soil within contaminated areas three times with uncontaminated water prior to using such equipment in an uncontaminated area. Dispose of wash water used to wash such equipment as contaminated water.

1.05 EARTH CONTROL

- A. Remove excess soil, spoil materials and other earth not required for backfill at the time of generation. Control stockpiled materials to eliminate interference with Contractor and Owner's operations.
- B. Dispose of excess earth off the Site. Pay cost for disposal unless otherwise noted. Provide written approval by the property owner for all disposal on private property, and approval by the Owner if such disposal affects the use of Site or other easements.

1.06 MANAGEMENT OF WATER

- A. Manage water resulting from rains or ground water at the Site. Maintain trenches and excavations free of water at all times.
- B. Lower the water table in the construction area by acceptable means if necessary to maintain a dry and workable condition at all times. Provide drains, sumps, casings, well points, and other water control devices as necessary to remove excess water.
- C. Provide continuous operation of water management actions. Maintain standby equipment to provide proper and continuous operation for water management.
- D. Ensure that water drainage does not damage adjacent property. Divert water into the same natural watercourse in which its headwaters are located, or other natural stream or waterway as approved by the Owner. Assume responsibility for the discharge of water from the Site.

- E. Remove the temporary construction and restore the Site in a manner acceptable to the Engineer and to match surrounding material at the conclusion of the Work.

2.00 PRODUCTS

2.01 MATERIALS

- A. Provide materials meeting regulatory requirements.

3.00 EXECUTION

3.01 CONSTRUCTING, MAINTAINING AND REMOVING TEMPORARY CONTROLS

- A. Construct temporary controls in accordance with regulatory requirements.
- B. Maintain controls in accordance with regulatory requirements where applicable, or in accordance with the requirements of the Contract Documents.
- C. Remove temporary control when no longer required, but before the Project is complete. Correct any damage or pollution that occurs as the result of removing controls before the point where they are no longer required.

END OF SECTION

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01 60 00 PRODUCT REQUIREMENTS

1.00 GENERAL

1.01 WORK INCLUDED

- A. Provide products for this Project that comply with the requirements of this section. Specific requirements of the detailed equipment specification govern in the case of a conflict with the requirements of this Section.
- B. Comply with applicable specifications and standards.
- C. Comply with size, make, type, and quality specified or as modified per Section 01 31 00 "Project Management and Coordination."

1.02 QUALITY ASSURANCE

- A. Design Criteria:
 - 1. Assume responsibility for the design of the products to include structural stability and operational capability.
 - 2. Design members to withstand all loads imposed by installation, erection, and operation of the product without deformation, failure, or adversely affecting the operational requirements of the product. Size and strength of materials for structural members are specified as minimums only.
- B. Coordination:
 - 1. Provide coordination of the entire Project, including verification that structures, piping, and equipment components to be furnished and installed for this Project are compatible.
 - 2. Determine that the equipment furnished for this Project is compatible with the Contract Document requirements and with the equipment and materials furnished by others.
 - 3. Protective coatings and paints applied to equipment shall be fully compatible with the final coatings to be field applied in accordance with the Contract Documents.
- C. Adaptation of Equipment:
 - 1. Drawings and Specifications are prepared for the specified products. Make modifications to incorporate the products into the Project at no cost to the Owner, if a substitution for a product is requested and approved in accordance with Section 01 31 00 "Project Management and Coordination."
 - 2. Do not provide a product with a physical size that exceeds the available space. Consideration may be given to the acceptance of these products or equipment if the Contractor assumes all costs necessary to incorporate the item and the Engineer approves such revisions.

1.03 SUBMITTALS

- A. Provide Submittals in accordance with Section 01 33 00 "Submittal Procedures," and shall include:

1. Certificates of Adequacy of Design, as described in Section 01 33 00 "Submittal Procedures."
2. Other documentation as required by detailed equipment specifications.

1.04 STANDARDS

- A. The applicable industry standards referenced in the Specifications shall apply as if written here in its entirety.
- B. Except where otherwise indicated, structural and miscellaneous fabricated steel used in items of equipment shall conform to the Standards of the American Institute of Steel Construction.

1.05 GUARANTEES AND WARRANTIES

- A. Guarantee and or Warranty products furnished by the Contractor under this Contract against:
 1. Faulty or inadequate design.
 2. Improper assembly or erection.
 3. Defective workmanship or materials.
 4. Leakage, breakage, or other failure.
- B. Guarantee and or Warranty the products installed under this Contract, including products furnished by the Owner, against leakage, breakage, or other failure due to improper assembly or erection and against improper installation of the equipment. The guarantee and or Warranty period shall be as defined in the General Conditions. Individual specification sections may have more stringent warranty requirements than stated in the General Conditions. The most stringent warranty will be required in the event of any difference in the two aforementioned locations.

2.00 PRODUCTS

2.01 MATERIALS

- A. Design, fabricate, assemble, deliver and install according to normally accepted engineering and shop practices, except where a higher standard of quality is required by the Contract Documents.
- B. Manufacture like parts of duplicate units to standard sizes and gages. Like parts are to be interchangeable.
- C. Two or more items of the same kind are to be identical and made by the same Supplier.
- D. Provide products suitable for the intended service.
- E. Adhere to the equipment capacities, sizes, and dimensions indicated by the Contract Documents.
- F. Do not use products for any purpose other than that for which it is designed.

- G. Provide new products unless previously used products are specifically allowed in the Contract Documents.
- H. Equipment shall not have been in service at any time prior to delivery, except as required by tests.
- I. Materials shall be suitable for service conditions.
- J. Iron castings shall be tough, close-grained gray iron free from blowholes, flaws, or excessive shrinkage and shall conform to ASTM A48.
- K. Structural members shall be considered as subject to shock or vibratory loads.
- L. Unless otherwise indicated, steel which will be submerged, all or in part, during normal operation of the equipment shall be at least 1/4-inch thick. All edges are to be chamfered to preclude any sharp exposed edges.

2.02 ANCHOR BOLTS

- A. Provide suitable anchor bolts for each product.
- B. Provide anchor bolts, with templates or setting drawings, sufficiently early to permit setting the anchor bolts when the structural concrete is placed.
- C. Provide two nuts for each bolt.
- D. Provide anchor bolts for products mounted on baseplates that are long enough to permit 1-1/2 inches of grout beneath the baseplate and to provide adequate anchorage into structural concrete.
- E. Provide stainless steel anchor bolts, nuts, and washers.

2.03 SPECIAL TOOLS AND ACCESSORIES

- A. Furnish tools, instruments, lifting and handling devices, and accessories necessary for proper maintenance and adjustment that are available only from the Product Vendor or are not commonly available.

2.04 INSULATION OF PIPING

- A. Insulate all piping on or related to equipment as required to prevent freezing under any condition. Insulate piping per the Supplier's written instruction.

3.00 EXECUTION

3.01 NOT USED

END OF SECTION

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01 70 00 EXECUTION AND CLOSEOUT REQUIREMENTS

1.00 GENERAL

1.01 WORK INCLUDED

- A. Comply with requirements of the General Conditions and specified administrative procedures in closing out the Construction Contract.

1.02 SUBMITTALS

- A. Submit affidavits and releases on forms provided by the Engineer.

1.03 SUBSTANTIAL COMPLETION

- A. Submit written notification that the Work or designated portion of the Work is substantially complete to the Engineer when the Work is considered to be substantially complete per the General Conditions. Include a list of the items remaining to be completed or corrected before the Project will be considered to be complete.
- B. Engineer shall visit the Site to observe the Work within a reasonable time after notification is received to determine the status of completion.
- C. Engineer shall issue notification to the Contractor that the Work is either substantially complete or that additional Work must be performed before the Project may be considered substantially complete.
 - 1. Engineer shall notify the Contractor in writing of items that must be completed before the Project can be considered substantially complete.
 - a. Correct the noted deficiencies in the Work.
 - b. Issue a second written notice with a revised list of deficiencies when Work has been completed.
 - c. Engineer shall revisit the Site and the procedure shall begin again.
 - 2. Engineer shall issue a Certificate of Substantial Completion to the Owner when the Project is considered to be substantially complete. Certificate shall include a tentative list of items to be corrected before final payment.
 - a. Owner will review and revise the list of items and notify the Engineer of any objections or other items that are to be included in the list.
 - b. Engineer shall prepare and send to the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be corrected or completed.
 - c. Review the list and notify the Engineer in writing of any objections within 10 days of receipt of the Certificate of Substantial Completion.

1.04 FINAL INSPECTION

- A. Submit written certification in the form provided by the Engineer when the Project is complete and:

1. Contract Documents have been reviewed.
 2. Work has been completed in compliance with the Contract Documents.
 3. Equipment and systems have been tested per Contract Documents and are fully operational.
 4. Final Operations and Maintenance Manuals have been provided to the Owner and all operator training has been completed.
 5. Specified spare parts and special tools have been provided.
 6. Work is complete and ready for final inspection.
- B. Engineer shall make an inspection with the Owner and appropriate regulatory agencies to determine the status of completeness within a reasonable time after the receipt of the Certificate.
- C. Engineer shall issue notice that the Project is complete or notify the Contractor that Work is not complete or is defective.
1. Submit the request for final payment with Closeout submittals described in Paragraph 1.07 if notified that the Project is complete and the Work is acceptable.
 2. Upon receipt of notification from the Engineer that Work is incomplete or defective, take immediate steps to remedy the stated deficiencies. Send a second certification to the Engineer when Work has been completed or corrected.
 3. Engineer shall re-visit the Site and the procedure will begin again.

1.05 REINSPECTION FEES

- A. Pay fees to the Owner to compensate the Engineer for reinspection of the Work required by the failure of the Work to comply with the claims of status of completion made by the Contractor.
- B. Owner may withhold the amount of these fees from the Contractor's final payment.
- C. Cost for additional inspections will be billed to the Owner by the Engineer for the actual hours required for the reinspection and preparation of related reports in accordance with the rates provided in the Supplemental Conditions.

1.06 CLOSEOUT SUBMITTALS TO THE ENGINEER

- A. Record Drawings per Section 01 31 00 "Project Management and Coordination."
- B. Keys and keying schedule.
- C. Warranties and bonds.
- D. Evidence of payment or release of liens on the forms provided by the Engineer and as required by the General Conditions.
- E. Consent from Surety to Final Payment.
- F. Equipment installation reports on equipment.
- G. Shop drawings, record data, Operations and Maintenance Manuals, and other submittals as required by the Contract Documents.

- H. Specified spare parts and special tools.
- I. Certificates of Occupancy, operating certificates, or other similar releases required to allow the Owner unrestricted use of the Work and access to services and utilities.
- J. Evidence of final, continuing insurance, and bond coverage as required by the Contract Documents.
- K. Final videos / photographs per Section 01 32 34 "Photographic Documentation."

1.07 FINAL APPLICATION FOR PAYMENT REQUEST

- A. Submit a preliminary final Application for Payment. This application is to include adjustments to the Contract Amount for:
 - 1. Approved Change Orders.
 - 2. Allowances not previously adjusted by Change Order.
 - 3. Unit prices.
 - 4. Deductions for defective Work that has been accepted by the Owner.
 - 5. Penalties and bonuses.
 - 6. Deductions for liquidated damages.
 - 7. Deductions for reinspection payments per Paragraph 1.05.
 - 8. Other adjustments.
- B. Engineer shall prepare a final Change Order, reflecting the approved adjustments to the contract amount which have not been covered by previously approved Change Orders.
- C. Submit the final Application for Payment per the General Conditions, including the final Change Order.

1.08 TRANSFER OF UTILITIES

- A. Transfer utilities to the Owner when the Certificate of Substantial Completion has been issued, final cleaning has been completed per Section 01 74 23 "Final Cleaning," and the Work has been occupied by the Owner.
- B. Submit final meter readings for utilities and similar data as of the date the Owner occupied the Work.

1.09 WARRANTIES, BONDS, AND SERVICES AGREEMENTS

- A. Provide warranties, bonds, and service agreements required by Section 01 33 00 "Submittal Procedures" or by the individual sections of the Specifications.
- B. The date for the start of warranties, bonds, and service agreements is established per the General Conditions.
- C. Compile warranties, bonds, and service agreements and review these documents for compliance with the Contract Documents.
 - 1. Each document is to be signed by the respective Supplier or Subcontractor.

2. Each document is to include:
 - a. The product or Work item description.
 - b. The firm, with the name of the principal, address, and telephone number.
 - c. Scope of warranty, bond or services agreement.
 - d. Date, duration, and expiration date for each warranty bond and service agreement.
 - e. Procedures to be followed in the event of a failure.
 - f. Specific instances that might invalidate the warranty or bond.
- D. Submit two copies of each document to the Engineer for review and transmittal to the Owner.
 1. Submit duplicate sets.
 2. Documents are to be submitted on 8-1/2 x 11 paper, punched for a standard three-ring binder.
 3. Submit each set in a commercial quality three-ring binder with a durable and cleanable plastic cover. The title "Warranties, Bonds, and Services Agreements", the Project name and the name of the Contractor are to be typed and affixed to the cover.
- E. Submit warranties, bonds and services agreements:
 1. At the time of final completion and before final payment.
 2. Within 10 days after inspection and acceptance for equipment or components placed in service during the progress of construction.

1.10 CLAIMS AND DISPUTES

- A. Claims and disputes must be resolved prior to recommendations of final Application for Payment. Acceptance and final payment by the Contractor will indicate that any outstanding claims or disputed issues have been resolved to the full satisfaction of the Contractor.

END OF SECTION

01 74 23 FINAL CLEANING

1.00 GENERAL

1.01 This section specifies administrative and procedural requirements for final cleaning at Substantial Completion.

1.02 WORK INCLUDED

- A. Perform a thorough cleaning of the Site, buildings, or other structures prior to Owner occupancy of the buildings, and prior to Final Completion. Leave the Project clean and ready for occupancy.

1.03 QUALITY CONTROL

- A. Use experienced workmen or professional cleaners for final cleaning.

2.00 PRODUCTS

2.01 MATERIALS

- A. Furnish the labor and products needed for cleaning and finishing as recommended by the Manufacturer of the surface material being cleaned.
- B. Use cleaning products only on the surfaces recommended by the Supplier.
- C. Use only those cleaning products which will not create hazards to health or property, and which will not damage surfaces.

3.00 EXECUTION

3.01 FINAL CLEANING

- A. Thoroughly clean the entire Site and make ready for occupancy.
 - 1. Remove construction debris, boxes, and trash from the Site.
 - 2. Remove construction storage sheds and field offices.
 - 3. Restore grade to match surrounding condition and remove excess dirt.
 - 4. Sweep all drives and parking lots clean of dirt and debris. Use water truck or hose down paved site to like new appearance.
- B. Spot paint nicks and other damage. If spot-painting does not blend into the existing color and texture of the surrounding surfaces, repaint wall from inside corner to inside corner. Touch up damaged surfaces on factory finished equipment using special paint furnished by the Manufacturer.
- C. Inspect exterior painted surfaces. Spot paint any damaged surfaces.
- D. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.

END OF SECTION

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